

THE
BOTANICAL EXCHANGE CLUB.

REPORT OF THE CURATORS.

FOR 1872—4.

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THE
BOTANICAL EXCHANGE CLUB.

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for a corrected version of the
greater portion of this see the
"Journal of Botany for 1875."

REPORT FOR THE YEARS 1872-4.

Ranunculus (acris) vulgatus, Jord. "Approaching *R. Friesii* in the breadth of the segments of the root leaves. Swanbister, Orkney, 1873. Of *R. acris* only two forms are as yet known to exist in Britain; *R. vulgatus*, Jord., with a creeping horizontal or slightly inclined rootstock, and *R. tomophyllus*, Jord., with a nearly erect rootstock, and with leaves more finely cut than in *R. vulgatus*."—J. BOSWELL SYME.

Ranunculus trilobus, Desf. "Kelso, Roxburgh, probably introduced: I have found it both by the riverside and in cultivated ground."—A. BROTHERSTON. "As this Mediterranean plant has no doubt been introduced with wool, and is little likely ever to become permanently established north of the Tweed, I should not have noticed it had it not been recorded in various publications as *Ranunculus arvensis*, var. *inermis*, of which up to this time I have seen no British specimens."—J. T. BOSWELL.

Ranunculus Ficaria, Linn., var. "Roadside between Crabtree and Plympton St. Mary, Devon, April 6, 1872."—T. R. ARCHER BRIGGS. "An apetalous form new to me."—J. T. BOSWELL.

Helleborus viridis, L. "This plant grows in open ground to the north-east of Arnside Tower, and is a mile distant from the station published in the previous report. In that station I have never known the plant to flower, but in the station now communicated it fruits."—C. BAILEY, Dec., 1874.

Delphinium Consolida, "Linn.," Reich. "Penzance Green, Cornwall, Aug.-Sept., 1872. About a dozen plants."—R. TUCKER, M.A. True *D. Consolida* of the Continental botanists, but doubtless a casual in Cornwall, as it has proved to be in Jersey, where no one has found it of late years.—J. T. BOSWELL.

Actaea spicata, L. "Rocky wood on the limestone between Arnside Knot and Kendal, Westmoreland. Corroborative of the occurrence of this species in the Lake District, which rests upon the authority of T. J. Woodward, who was seldom wrong."—F. ARNOLD LEES, 1872.

Fumaria confusa, Jord. "Kennet, Clackmannan, October, 1874.—TOM DRUMMOND. Mr. Drummond has also sent for my inspection specimens from Kincardine-on-Forth, and this year it grew in great abundance in a potato field at Linhead, Balmuto. In this field it was accompanied by *Papaver Leeoqii* and *Lamium intermedium*, as well as the usual weeds of cultivated ground. Previous to this year *Fumaria Boræi* was the only form of *F. capreolata* that I have seen in the district, with the exception of a single plant of *F. confusa*, which appeared as a weed in Balmuto Garden in 1868."—J. T. BOSWELL.

Rapistrum rugosum, All. "Cornfield, near Margate, Kent, 8th July, 1869."—W. P. HIERN.

Brassica oleracea, Linn. "The specimens sent were gathered at Prussia Cove, near Marazion, a very old station. It has the appearance of being native, being found on the face and edge of the cliff, but does not extend inland."—J. CUNNACK, 1874.

Brassica Rapa, L. (e *Briggsii*, Lon. Cat., ed. 7.) "In arable land near St. German's Beacon, E. Cornwall, 26th Aug., 1874."—COL. T. R. ARCHER BRIGGS. "Miss Payne sends specimens from Weymouth, Dorset, under the name of *Brassica 'Napus'*, collected in July, 1872, which I believe to be the same as Mr. Briggs' annual form of the wild turnip, which in the last edition of the London Catalogue is named by Mr. Watson '*Briggsii*.' The members of the Club will scarcely require to be told that the *b. sylvestris* immediately preceding it in the London Catalogue is the biennial form of wild turnip so common along the banks of the Thames above London."—JOHN T. BOSWELL.

Brassica Cheiranthus, Vill. "Grows freely all over a kind of sandy warren near the little seaport village of Pentnan, in Cornwall, from whence is shipped, as well as from other parts adjacent, the china clay which is dug up at St. Austell, the nearest town. It was difficult to procure roots, the older plants being very large and unmanageable, and generally mixed up with furze bushes, brambles, and coarse herbage. The single specimen with entire leaves was growing on some waste ground further inland. I found only one very large root. There might have been more, but I had not time to search for them." (Mrs.) E. A. LOMAX. "Also from fields at Gullane, Haddingtonshire, July, 1872. It had at least every appearance of being wild, growing on a wall on the edge of recently enclosed common."—J. R. DRUMMOND. This plant is sent also by Dr. John Fraser, from Sutton Common, near Kidderminster, Worcestershire, since 1873.

Sisymbrium pannonicum, Jacq. "Crosby, Lancashire. It is the opinion of Mr. H. S. Fisher that the plant was introduced into this

locality by means of foreign ballast, and not by such human agency as I suggested last year."—J. HARBORD LEWIS, 1872.

Barbarea stricta, Andrz. "Sides of fields and ditches near Balmore, Stirlingshire, June, 1873. Apparently indigenous."—R. MCKAY.

Nasturtium amphibium. "Alloa Park, Clackmannshire. The accompanying specimen I gathered in an old quarry at Alloa Park. It grows there in great abundance all round the edge, but in no other spot in the vicinity, as far as I know. It is to all appearance native; indeed, I have tried hard to imagine how it could be introduced, but can think of no way unless it has been purposely sown there by some collector of plants; but that is very unlikely, as no one resident in the district cares enough about botany to take such trouble. The quarry is an old one, and may at one time have been connected with a lead from Gartmoor dam, which passes within a hundred yards of it, or rather did, for it is now covered in, and the quarry is being filled with rubbish, as the proprietors are improving the estate. I first gathered it in this habitat in 1867, and it was then in as great profusion as this year, but I am afraid it will only be allowed to exist for another year, as the rubbish is fast encroaching on it."—TOM DRUMMOND, 1874.

Cochlearia anglica, Huds. "Of this plant there are two forms, apparently widely separated when seen apart, but so connected by intermediate links that it is difficult to say where the line ought to be drawn between them. The common form in the south-east of England is certainly the var. *gemina* of the Rev. F. Hort, which I think was founded originally on specimens collected near Chepstow; but it is the common form along the estuary of the Thames and in the Isle of Wight. In this the root-leaves are attenuated at the base, the fruit very large, sometimes half an inch long, oval, more or less tending towards obovate, and inflated on the under side on each side of the narrow septum, which thus appears to be situated in a tolerably deep furrow. The other form from the north of England I propose to call var. *Hortii*, as it appears to be the plant which the Rev. F. Hort considered the type of the species. Which is really the more widely distributed form I am unable to say, but the few Continental specimens of *C. anglica* which I have seen certainly belong to var. *Hortii*, such as those published in 'Wirtgen's Hrb. Plant. select. Fl. Rhenanæ.' What I consider the type of this variety is sent by Mr. Robert Brown, from the 'muddy shore of the river Mersey, Birkenhead, Cheshire, July, 1873, and has also been sent to the Club by Mr. J. Harbord Lewis. The radical leaves are oval, tending towards ovate rather

than obovate, abrupt or rounded at the base, and the pods considerably shorter, often not more than a quarter of an inch long, broader in proportion than var. *gemina*, and having the broadest part in the middle, and not at all towards the apex. A more largely developed state of what seems to me the same as this variety is sent by the Rev. Augustin Ley, from the tidal banks of the Wye, Tintern, Monmouthshire, consequently not far from Mr. Hort's station for var. *gemina*, to which I think by far the greater number of the specimens of *Cochlearia anglica*, sent by Mr. Ley, must be referred, but the pod and leaves require to be examined in a fresh state, and it is to be hoped that members of the Club will make notes as to the correlation of the shape of the root-leaves with that of the pod, and with the apparent depth of the furrow upon the latter, which cannot be properly observed in dried specimens. Mr. T. R. Archer Briggs sends a series of *Cochlearias* from the neighbourhood of Plymouth, which appear to connect this intermediate variety of *anglica* with *officinalis*, but being without notes made on the fresh pods I do not venture to pronounce judgment on them. Throughout all the varieties of *officinalis* which I have seen the *septum* never assumes the narrow strap-shaped elliptical form which it has in the forms of *C. anglica*, which I have examined when fresh."—J. T. BOSWELL.

Iberis amara, Linn. "Sparingly scattered over a sandy waste bit of ground just above high-water mark at the mouth of the Eden, St. Andrews. I have noticed it in previous years in this vicinity, but being late in the season I was then unable to get it in flower; the locality in which it grows is the furthest removed from any houses or gardens."—H. M. DRUMMOND HAY, June, 1872.

Lepidium graminifolium. Linn. "Many plants of it on waste ground by Kew Bridge, Surrey, 1872, and garden, 1874. Root brought from waste ground near Kew Bridge."—H. C. WATSON. "The garden-grown specimens show the hexandrous plant, though the stunted form seems to be labelled as the diandrous *L. Iberis* by some Continental botanists."—J. T. BOSWELL.

Bunias orientalis, L. "Waste ground near the sea, formerly ballast; North Sands, Hartlepool." "Not noticed here before 1872, nor recorded in Baker and Tate, but will possibly maintain its ground, though it ripens seed rather sparingly. It occurs only on the oldest ballast, now well overgrown and supporting mainly well-established perennials."—F. ARNOLD LEES, 1873.

Viola Curtissii, Forst. "Grassy places between the Lizard Light-house and the coast, Cornwall, June, 1872."—W. H. BEEBY. "These specimens seem to be the var. *Mackaii*, commonly known as the Port Marnock violet."—JOHN T. BOSWELL.

Polygala oxyptera, Reich. "This was growing plentifully last June on the chalk downs between Ringwold and St. Margaret's Bay, Kent, in company with *P. vulgaris*. It appeared to prefer the ground from which turf had been taken a year or so previously."—J. F. DUTHIE, May, 1875. Also Llansilin, Denbighshire, July 15, 1872.—E. JONES. "I think these specimens are rightly referred to *oxyptera*, but it is a curious elongated form, in habit somewhat resembling the Continental *P. comosa*, but without the elongate bracts of that form."—JOHN T. BOSWELL.

Polygala austriaca, Crantz. "I have already recorded in 'Journ. Bot.' 1874, p. 204, another locality for this plant on the downs above Wye, showing an extension in area in a southerly direction."—J. F. DUTHIE, May, 1875.

Saponaria officinalis, Linn., var. *puberula*. "Sandy bank, Hightown, Lancashire. The specimen herewith differs from the type, as per 'E. B.,' third edition, and Hooker's 'Student's Flora,' in having the sepals and upper portion of the stem decidedly puberulous. All the plants growing on the same sandy bank had the same peculiar feature. The typical glabrous form, however, is to be found about one hundred yards from this spot."—R. BROWN, 1872. "I can find no allusion to this puberulous variety in any of the Continental floras to which I have access."—JOHN T. BOSWELL.

Saponaria raccaria, Linn. "Cornfields near the railway bank N. of Hartlepool, and also on the bank. In plenty with *Cynosurus echinatus*, but not lasting over a few seasons probably."—F. ARNOLD LEES, 1872.

Silene quinquevulnera, L. "Kelso, Roxburghshire. I have found stragglers of this in cultivated ground in this neighbourhood for the last fifteen years."—A. BROTHERSTON, 1874.

Cerastium semidecandrum, L. "Sandbank, Mothecombe. Sent from its great rarity near Plymouth."—T. R. ARCHER BRIGGS.

Cerastium holosteoides, Fries. "A perfect aquatic and rather a variable plant, sometimes almost running into the typical form, *C. triviale*, but may always be distinguished in its living state by its dark, smooth, shining leaves. Abounds on the tidal banks of the Tay, from Perth down to the brackish water opposite Newburgh, in which it flourishes, but as the water gets salter it gradually ceases. Found only below high-water mark, where the typical form is not seen. Whether the very marked differences in appearance when in a growing state arise from locality only remains to be proved. The first flowers are more than double the size of the common form."—H. M. DRUMMOND-HAY, 1874. "This curious form of *Cerastium*

triviale ought to be looked for along the course of tidal rivers, now that its situation is known. I do not know in what sort of place it grows near the Tyne above Redheugh, above Langdon Dale in Northumberland, the only British county besides Perth for which it has been recorded. I am not aware that the very marked difference in the size of the early flowers has been remarked in its other stations. Fries, in 'Sum. Veg. Scand.', gives a var. *subacaule* as 'glabrius grandiflor.' Can this be the early state of *hypoctoides*? Dr. Buchanan White says that the early state bears much resemblance to the alpine variety of *triviale*, which occurs on Little Kilrannoek Clova, Lochnagar, &c. This alpine variety is termed in the London Catalogue *alpestre*, Lindbl.; the name *alpinum*, Koeh., being inconvenient on account of these being a species *alpinum* in the genus."—JOHN T. BOSWELL, 1875.

Spergularia rubra, Fenzl. "Glandular-hairy form of *rubra*, or something between that species and *S. rupestris*, Lebel? Two specimens of a curious *Spergularia*, in some respects intermediate between *S. rubra* and *S. rupestris*, from a waste spot by a roadside at St. German's Beacon, E. Cornwall, very near the coast. More specimens of it grew there. One of *S. rubra* sent from the same spot for comparison."—T. R. ARCHER BRIGGS. "A form of *rubra*, not *rupestris*."—JOHN T. BOSWELL.

Claytonia alsinoides, Sims. "Plentiful in a fir-wood about a mile above the Cloek Lighthouse, Renfrewshire, June, 1872."—RICHARD MCKAY.

Claytonia perfoliata, Don. "Three well-established clumps growing along with *Cakile maritima* at the foot of a sandhill facing the sea, Leasome, Cheshire, possibly an escape from the gardens of Leasome Castle. This is about as unlikely a station as can well be imagined for a species described as growing 'in umbrosis,' but the plants were vigorous and seeding copiously. In two respects they differed from the description in 'English Botany.' There were no radical leaves, and the capsules each contained generally three, sometimes two, rarely one or four seeds."—T. COMBER, 1872.

Elatine hexandra, DC., var. "Cut Mill Ponds, Sept., 1872. This is a rather remarkable variety, growing completely submerged on rank deep mud. I fancy it would get a separate name on the Continent. I dissected the fruit with Dr. Trimen, and we found it to fall under *E. hexandra*, and distinctly not under *E. Hydropiper*, though the fruit is rather more curved than in the typical *E. hexandra*. (It is not, therefore, the *E. majuscula* of the Belgian Bulletin.)"—J. L. WARREN.

Elatine Hydropiper, L. "Cut Mill Ponds."—J. L. WARREN. Sept., 1872. "It may save botanists a useless journey to inform them that there is no chance of getting this plant at the Cut Mill Ponds, unless the water be unusually low in the two upper mill pools. Even then a thorough wetting is necessary. Mem. to take a pair of boots and stockings dry."—J. L. WARREN.

Hypericum boeticum, Boiss. "Is very common in West Cornwall, and with the exception of *H. elodes*, is the species most frequently met with."—J. CUNNACK, 1874.

Malva nicænensis, All. "Waste ground, Richmond, Surrey, July, 1872."—J. G. BAKER. "Also specimens of *Malva nicænensis*, All., sent from a large plant which has come up for two years in waste ground in Oxford. Habit erect, branching. About four feet. Many of the lower branches deflexed and procumbent."—H. E. FOX, 1872.

Malva borealis, Wimm. "Roadside, Antony, E. Cornwall, August 26, 1874. (Vide 'Journ. Bot.', vol. iii., n. s., p. 306.)"—Colonel T. R. ARCHER BRIGGS.

Geranium striatum, L. "Occurs not unfrequently in Lizard District and near Helston, but always (so far as I have seen) in orchards or near houses."—W. M. ROGERS.

Lupinus perennis, L. "Island in the Dee at Kingcausie, Kincardineshire. May, 1875."—J. B. FORTESCUE. "This Lupine seems likely to become thoroughly naturalised in Scotland. It is extremely abundant in the island from which Miss Fortescue procured the specimen sent to the Botanical Exchange Club, and I saw it on another island a few miles lower down. Dr. F. Buchanan White reports it on the Dee and Cluny at Castleton of Braemar, and the former also from the banks of the Tay. Mr. William Fortescue saw it on the Spey."—JOHN T. BOSWELL, May, 1875.

Genista anglica, L. "Oakmere, Cheshire, May, 1872. A single bush growing on heathy ground. The first time I have seen it growing near Manchester."—CHARLES BAILEY, 1872.

Genista pilosa. "Very abundant all about Kynance Cove and up the Valley. Occurs again on Cliffs E. of Mullion Cove."—W. M. ROGERS, 1874.

Genista humifusa. "Frequent throughout Lizard District."—W. M. ROGERS, 1874.

Sarrothamnus prostratus. "This remarkably prostrate plant I found only in the narrow valley (both sides) opening out into Kynance Cove."—W. M. ROGERS, 1874.

Medicago sylvestris and *Medicago falcata*, L. "Cromer, Sept., 1874. These two species grow intermixed in a limited area to the

north-west of the town of Cromer, and in dangerous proximity to the line of lodging-houses on the cliff. I found it difficult to discriminate the two species, unless the pods were sufficiently developed. Generally speaking *Medicago eu-falcata* had its flowers of a brighter and deeper yellow than those of *M. sylvestris*, which were of a dingy yellowish-brown, particularly when growing at the base of the cliffs. There were individual specimens of *eu-falcata*, where pure violet-coloured flowers were growing on the same stem with equally pure yellow flowers, but the same was not noticed to occur with *sylvestris*. The most characteristic plants were those collected on the 1st of September, the stations for these being a slight distance inland somewhat protected from sea breezes; those collected on the 2nd and 4th occurred on the *débris* of fallen cliffs, which are all composed of sand at Cromer, and in such stations individual plants would cover patches two to three yards in diameter. More often than not the branches of the two species were interlocked. *Medicago sativa* never occurred with them, but it was not infrequent along the edges of cultivated fields along the cliffs."—C. BAILEY, Dec., 1871.

Medicago falcata. "Old ballast, Hartlepool, now thoroughly established, having occurred for many years. It is quite an extreme form, the legumes being scarcely curved, certainly far from sickle-shaped."—F. ARNOLD LEES, 1872.

"*Trifolium Molinerii*, Balb., is abundant, generally growing down the face of the cliffs. I noted it on eight points of the coast."—R. M. ROGERS, 1874. "I saw this plant abundant in many places by the coast between Kynance and Cadgwith."—W. H. BEEBY, June, 1872.

Trifolium Bocconi. "I searched in vain for this except in the one very limited locality near Cadgwith. I do not think it can exist now either at Caerthillian or near Old Lizard Head."—H. M. ROGERS, 1875.

Trifolium suffocatum, L. "Plentiful last summer near Deal Castle by the sides of the paths, and on the dry turf ground near the beach."—J. F. DUTHIE, May, 1875.

"*T. strictum*, L., I could only see at Caerthillian, Cornwall, June, 1872."—W. H. BEEBY. "I believe has not been found except at Lower Piadanack (I gathered it there in 1857 and 1858) for many years past."—W. M. ROGERS, 1874.

Trifolium repens, L., var. *Townsendi*. "Sandy ground, Tresco, Scilly (figured some time ago in the 'Journal of Botany'). I saw this plant also growing in the Island of St. Mary's, but very sparingly."—W. H. BEEBY, June, 1872.

Trifolium agrarium, Schreb. ; *T. aureum*, Poll. "A specimen of a

plant which I take to be this from the neighbourhood of Plymouth, where it is now often to be seen in fodder fields."—T. R. ARCHER BRIGGS. "This is often abundant at Balmuto, Fife, in clover fields, introduced in the foreign seed."—J. BOSWELL SYME.

"*Lotus hispidus*, Desf. (a very small form, with heads almost exclusively one- or two-flowered) studs the short turf of the cliffs on several points of the coast, in the Lizard district."—W. M. ROGERS, 1874.

Lathyrus hirsutus, L. "The Surrey locality (viz., a bank at Warlingham, six miles from Croydon) is, I believe, a genuine one. The plant occurs somewhat plentifully on a rather steep bank above, and at the top of a sloping cornfield, growing with *Poterium*, *Lotus corniculatus*, and other plants that grow in similar situations on chalky banks in a rather secluded valley among the chalk hills, below Wormsheat. It may have escaped from the cornfield, but I only found two plants at the edge of the corn, and these seemed rather to have come from the bank above than to have been sown with the corn; altogether, I think it may justly be entitled to be called a wild Surrey plant, if not indigenous. First found by Mr. Robinson, of Croydon, in July, 1873."—A. BENNETT. "On a second visit to the locality for this plant I am convinced it is undoubtedly wild. I found it at intervals for about a quarter of a mile beyond the original station among bushes on the steep bank running along the top of the fields, in a similar situation to which I have gathered it near Hadleigh Castle, in Essex; and the bank is so steep that it is impossible for such seeds as the *Lathyrus* to blow there, and as the wheat, &c., cultivated in the fields is taken down from the station to the farm (Hallelloo) and, not up the bank, the seeds could not have been so placed there. My friend, Mr. Beeby, of Croydon, in a note to Mr. Watson (quoted in 'Typographical Botany') is mistaken in the plant being first found in the cornfield. Mr. Robinson found it on the bank above the field. The difference in the size of the specimens sent is from some being collected among the bushes and some among the short herbage, and those of this year no doubt partially from the very dry season."—A. BENNETT, July, 1874.

Potentilla reptans, L. "Specimen or two of a densely villose variety, probably the *sericea* of Brébisson in 'Flore de la Normandie.'"—T. R. ARCHER BRIGGS.

Rubus adscitus, G. Genev. ; *R. mutabilis*, G. Genev. "Two Rubi forms from the neighbourhood of Plymouth, that seem to be sufficiently distinct to be regarded as 'species' in the Babingtonian sense. *R. adscitus* is widely dispersed and abundant in the neighbourhood of Plymouth. *R. mutabilis* is local, for whilst it figures as one of the com-

monest Rubi in some localities, it is not to be seen at all in others."—
T. R. ARCHER BRIGGS, 1872.

Rubus atro-rubens, "Wirtg." Blox. "I have forwarded a supply of this Bramble, which has been carefully compared with specimens received from Rev. A. Bloxam. Mr. Bloxam has also seen specimens, and confirms my opinion as to identity. Prof. Babington says: 'I consider this a form of *R. foliosus*, to which I also join *R. atrorubens*, Wirt. It is also the *exsecatus*, Muller.' It occurs abundantly in lanes east north-east of Birmingham, and then, after a long gap of country, reappears in Sutton Park, which lies north of this town."—J. BAGNALL, 1874.

Rosa involuta, Sm., var. *Smithii*. "Opes Tor, near Alstonfield, N. Staffordshire."—W. H. PURCHAS. This is the true *involuta* known before only in Arran and Yorkshire."—J. G. BAKER, 1872.

Rosa britannica, Déséglise. "Sent to correct an error in last year's Report. I myself was the first observer of this plant, and there are several bushes, not one, scattered along the straits at intervals."—F. ARNOLD LEES, 1873.

Rosa saxatilis, Bor. "Woodlands, S. Devon. Regarded by Mr. Baker as an extreme form of *R. verticillacantha*, Merat. M. Déséglise says it is *R. saxatilis* of Boreau. I have previously sent it from Warleigh only a mile or two from Woodlands."—T. R. ARCHER BRIGGS.

Pyrus rupicola, Syme. "Silverdale and Humphrey, June and July, 1874. This Pyrus is widely spread over the littoral region between Lancaster and Humphrey Head—part of this area being in Westmoreland and part in North Lancashire. It must be regarded as truly native, although it occurs in plantations in the same area."—C. BAILEY, December, 1874. "Llanthony Valley, Breconshire, September, 1874."—AUGUSTIN LEY.

Pyrus scandica, Syme; and *fennica*. "I first became acquainted with these interesting Arran rarities in 1865. In July of that year I visited one of the known localities, viz., Glen Eis-na-Vearradh, a long glen in the neighbourhood of Loch Ranza. There were several fine trees near the main stream, and a few scrubby ones by the side of a tributary descending from the east. All that I here saw belonged to what Dr. Syme considers to be *P. scandica*—i.e., with the lower lobes of the leaves not divided to the base. A few days later I found several trees of the subpinnate form in a locality not previously recorded, viz., a rough rocky burn above Catacol Bay on the west side of the island. On this occasion I noticed only the one form, whilst Dr. Boswell-Syme who has since visited this locality found plenty of *P. scandica*, but only one tree of *P. fennica*. This is now

explained by our having examined different sides of the burn; the left bank being that on which *fennica* grows most plentifully. It here occurs freely intermixed with *Pyrus Aucuparia*, which favours the suggestion offered by Dr. Boswell-Syme as to the hybrid nature of this tree."—J. F. DUTHIE, May, 1875.

Pyrus pinnatifida (Angl. plur.) "West Dale Hall, Cumberland. (Planted.) August 31st, 1871."—AUGUSTIN LEY. *P. semipinnata*, Roth. E. B., ed. iii.—J. T. BOSWELL.

On the forms (subspecies or hybrids?) of Pyrus Aria, Hook.—Since 1864, in which year I wrote the description of the subspecies of *Pyrus Aria* for the 3rd ed. of "Engl. Bot.," as having had a special liking for the group I have endeavoured to obtain as much information on the subject as I could from personal examination of both living and dried specimens, foreign and British, and also by conferring personally and by letter with those able to afford information on the subject. The result has been that after much vacillation of opinion I have at last, as I think, arrived at some more satisfactory conclusion, at least as regards certain members of the group. I am very glad to find that at least on one point my opinion is strengthened by a most interesting set of Continental specimens of the *Sorbus* group sent me this spring by Mr. H. C. Watson who received them from Professor Reichenbach, fil. Of the first form, *Pyrus eu-aria*, 'E.B.', ed. iii., which I have called *Pyrus eu-aria*, and which is *P. Aria* of Babington's "Manual" and the "London Catalogue," I have little to remark. Its leaves vary from roundish-oval to oblong-elliptical, are firm, with 9 to 14 veins on each side, which stand out very prominently beneath, especially when the leaves are old, when they become somewhat parchment-like in texture, and remain permanently covered with very close pure white arachnoid felt. The margins of the leaves are serrate or crenate-serrate, and frequently slightly lobed, the terminal tooth of the lobe into which the vein runs not greatly exceeding the others in size and sharpness. The third vein from the base usually being the first that runs into anything that can properly be called a lobe, and the lobes deepest about one fourth from the apex of the leaf. The flowers are comparatively large, $\frac{3}{4}$ to $\frac{5}{8}$ inch across, and have rather an unpleasant odour; the young leaves retain traces of an arachnoid tomentum, especially on the veins, until the flowers are fully expanded. The fruit is about half an inch in diameter and bright scarlet. It is a common plant in the south of England, especially in chalk districts, and grows to a tree of considerable size (10 to 20 feet).

2. *Pyrus rupicola*, E. B., ed. iii. This differs from *Pyrus eu-aria*

chiefly in having fewer veins on each side of the leaf, and the veins less prominent. The usual number of veins on each side is 7, but I have seen as few as 5 and as many as 9. The leaf is almost always broadest beyond the middle, the lobes are smaller, and, as well as the teeth, more acute, the terminal tooth into which the main vein runs not much exceeding the others. The leaves have much the same texture as in *P. eu-aria*, and at first are nearly as pure white in colour, but ultimately have a much greyer tinge. The tomentum is looser in texture below, and the arachnoid covering disappears sooner from the upper surface, for though remaining till the leaves attain their full size and the plant is in bud, yet I have not seen any traces of it in specimens which have the flower fully developed. The fruit is smaller than in *P. eu-aria*, $\frac{3}{8}$ inch in diameter, and the scarlet slightly inclining to carmine, which shade of colour I have not seen in *P. eu-aria*. This plant seems to be peculiar to limestone rocks, and may be but a rupestral form of *P. eu-aria*. It will be observed, however, that Mr. C. Bailey, in his note given above on its occurrence in Lancashire, speaks of its being often found not only in stations where it must be regarded as truly native, but also in plantations. From this I infer that it occurs in the plantations still distinguishable from *P. eu-aria*, though I regret much that some of these plantation forms have not come under my notice. I believe *P. rupicola* to approach most nearly to *Sorbus græca*, Lodd., which is placed by Boissier as a variety of *S. Aria*. It differs from *P. rupicola* in the leaves being smaller, more snowy white beneath than even those of *P. Aria*, and the veins on each side varying from 5 to 8, but usually 6. Sometimes the leaves of *S. græca* are rather deeply lobed (*i.e.*, the lobes about as long as broad), deepest at or confined to the apex of the leaf central tooth into which the vein runs not conspicuously larger than the others. Of this group there are in Prof. Reichenbach's collection two examples named *S. græca*, and another which appears to be the same thing, named "*Sorbus Aria*, var. *incisa*, Rose." "Friedersdorf Col. Karl." Another specimen called "*Sorbus Aria*, Sierra Nevada, 9000 feet, Hisp. Willkomm.," is intermediate between *græca* and *rupicola*. A specimen in the same collection, labelled "*Sorbus Aria*, Krain," seems to me true *rupicola*. Another named *Sorbus oblongifolia*, Reich., Fl. Germ., 2252, Krain, Dobrana, Fleischmann, I believe to be also an abnormal form of *rupicola*, from its small flowers and glabrous upper surface of leaves, though I almost agree with Mr. Watson, who thinks it "as near Dr. Syme's Reigate specimens of *P. eu-aria* as to Mr. Whittaker's Buxton specimens of *P.*

rupicola." "*Sorbus meridionalis*," Guss., in Strobbi's "Flora Nebrodensis," appears intermediate between *P. græca* and *P. eu-aria*, but differs from both in having the central tooth of each lobe of the leaf (that into which the side veins run) much larger and more acuminate-acute than the others, as in *P. latifolia*, to which it also approaches in the subcoriaceous texture of the leaves; the veins are from 6 to 10 in number; the margins of the leaves have minute deltoid-acute lobes, deepest in the uppermost fourth of the leaf, and the under surface of the leaf is snow-white.

3. *Pyrus latifolia*. Whether or no we consider *Pyrus rupicola* sufficiently distinct from *P. cu-aria* to require a separate specific name, there is a very general feeling that the plant which I believe ought to be called *P. latifolia* is something more than a variety of *P. Aria*. By British Botanists it has till within a few years been assumed to be *Sorbus scandica* of Fries., the *Crataegus Aria* var. *a scandica* of Linn., Amœn., and the *C. Aria*, *B suecica*, Linn. Sp. Pl. So far back as 1851, however, Prof. C. C. Babington in the "Botanical Gazette," vol. iii., p. 34, in speaking of the (English) *Sorbus scandica*, at that time the only one recognised, says, "Nearly allied to and, as I think, not distinct from this, is the *S. latifolia*, Pers." In this, as far as the English *P. scandica* goes, I quite agree with him. It was not until the year 1869, five years after the description of *P. scandica* for "Engl. Bot.," ed. iii., was written, that it dawned upon my mind that the English *scandica* was not the same as the Scandinavian. See the report of Bot. Exchange Club, 1869, p. 11, in which I mention that the Devonshire specimens show an approximation towards *S. latifolia*, but at that time I fell into two errors from having only imperfect Continental specimens. I began to think that the English *scandica* was *S. Mougeoti*. The other error will be mentioned below under *Pyrus fennica*. This error was confirmed by receiving a Continental specimen of *P. latifolia*, as I now believe labelled *Mougeoti*, which led me to think that *P. Mougeoti* and *latifolia* were forms of one plant. More recently the receipt of further specimens of *S. Mougeoti* and *latifolia*, and the perusal of Mons. Grenier's "Flore de la Chaine Jurassique" showed me that *S. Mougeoti* and *latifolia* were not identical, and that the English *scandica* was the Continental *latifolia*. The most recent contribution to my knowledge has been five specimens named *Sorbus latifolia*, in Dr. Reichenbach's collection, which Mr. Watson kindly placed at my disposal. These five specimens include nearly the whole range of forms of our British plant which have come under my observation, so that now I have no doubt that to the plant now under consideration the name *latifolia* ought to be applied.

P. latifolia differs from *P. eu-aria* in having the leaves ultimately subcoriaceous, 5-to 9-veined, with the veins much less prominent beneath, the under surface at first with a very dense, greyish, cream-coloured tomentum below, and a less dense one above. The tomentum on the upper surface remains until the leaves have attained to about half their full size or more, and traces of it may even be found at the time the plant begins to flower. The tomentum on the under surface becomes much less dense than in *P. eu-aria* and *rupicola*, so that the colour of the leaf becomes of a greyish green and not white. Ultimately it becomes so thin that the substance of the leaf may be seen in places nearly denuded. The leaves vary greatly in breadth from subrotund-ovate to oval-oblong. They are always more or less lobed, though the lobes vary much in depth, the second lobe from the base being generally the most prominent, though occasionally the first equals if not exceeds it. These lobes are always deltoid or triangular in outline, more or less distinctly serrated, and each lobe terminates in a tooth larger and more acuminate and acute than the others. The extremes in British specimens lie between specimens sent from Symond's Yatt, Gloucestershire, by Rev. Augustin Ley, in which the leaves are nearly as broad as long, with large and very acute lobes, to the Leigh Wood plant, figured as *P. scandica* in "E. B.," ed. iii., p. 484, in which the leaves are only about half as broad as long and the lobes short and much blunter. Mr. Watson has sent me a leaf from the Nightingale Valley, collected by Miss Atwood in 1852. This leaf certainly presents some approach to *P. eu-aria*, but I have a specimen from Miss Atwood, probably from the same tree, as it is labelled Nightingale Valley, 1852, which has fewer veins and more deeply lobed margins, being in fact quite undistinguishable from Mr. T. B. Flower's Leigh Wood specimens, which after all may be from the very same tree as Miss Atwood's. Mr. T. R. Archer Briggs says of this, "the odour of the flowers is very sickly and disagreeable in the Devonshire plant"; so in this it appears to agree with *P. eu-aria*, which it also resembles in the size and colour of the fruit. The broader the leaves of this plant, the more the lobes point outwards; in the narrower forms they point towards the apex of the leaf. Garcke in his "Flora of North and Middle Deutschland" describes *P. latifolia* under the name of *P. Aria-torminalis*. Certainly in the texture of the leaves and the character of their pubescence when young there is a departure from *P. Aria* in the direction of *torminalis*, and in the broader-leaved specimens the form of the leaf and of the lobes approaches that species, and were *P. latifolia* not so abundant the most probable

solution would be that it was a hybrid between *P. Aria* and *P. terminalis*, and there is nothing in its distribution in England and on the Continent to forbid the supposition.

P. scandica. In 1869, I first made acquaintance with *P. scandica* as a wild plant in Britain, Mr. A. Craig Christie having in that year sent to the Botanical Exchange Club numerous specimens collected in Glen Eis-na-vearach. Some of these are precisely similar to Scandinavian specimens in my possession, but the majority of them have the leaves narrower and more deeply lobed. Specimens from the Crook of Devon, where no doubt the tree has been planted, agree well with the Scandinavian ones, though even this has the leaves more deeply lobed than the Stockholm plants, though not more so than those from Upsal, *P. scandica* differs from *P. latifolia* in the texture of the leaves, which are less coriaceous, having much the same texture as those of the Mountain Ash. The leaves become glabrous much sooner, long before they are full sized, and show no trace of pubescence above in any specimens which I have seen in flower, either fresh or dried. But what gives the greatest difference of aspect is, that the general outline of the lobes of *P. scandica* is oval or roundish, not deltoid or triangular. The degree of serration of the lobes varies much, but the terminal tooth is usually larger and sharper than the others without, however, being so much so as to destroy the general curved outline of the lobe. The pubescence on the underside is greyer, and still less dense than in *P. latifolia*, and the tertiary veins are more apparent on the under side of the leaf. The lobes, too, diminish in size less rapidly from the base to the apex, and generally speaking are deeper than in *P. latifolia*. According to Fries they are sometimes so deep towards the base of the leaf, especially on the shoots of the year, that they become pinnatifid; some of the Arran specimens have been divided nearly half way down. The flowers of the living plants which I have seen had a rather pleasant odour, resembling that of the mountain ash. The fruit of the Arran plant is about the size of that of *P. rupicola*, and according to Mr. Duthie sweet-tasted. M. Grenier considers that *Sorbus Mougeoti* of Soyer and Godron is "a xerophilous form of *scandica*." There is no doubt that it is nearer to *scandica* than to *latifolia*, and seems to replace *P. scandica* on the continent of Europe. It differs in having the leaves whiter beneath, and the fruit smaller. It seems to me to be between *P. scandica* and *P. eu-aria*. I have no foreign specimens of true *P. scandica*, except from Sweden and some received from the late Herr Buek, collected "Prope Gelanum"—i.e., Dantzig. In Prof. Reichenbach's collection there are four examples of *P. scandica*, all from Sweden, but none of *P. Mougeoti*.

P. fennica. At the time when I arrived at the conclusion that Mr. Craig-Christie's Arran Pyrus was *P. scandica*, and distinct from the English plant so called, I drifted into another error—that all the pyrus of the *Aria* group found in Arran ought to be referred to *P. scandica*, supposing that the Arran Pyrus with the leaves pinnate at the base was a plant described by Fries as *P. scandica*, var. *pinnatifida*. At that time I had seen very few, and these few imperfect, specimens from Arran, and possessed but a single Scandinavian specimen from the late Dr. Blytt. Having, however, obtained good specimens of *P. fennica* collected by Dr. Ahlberg, of Upsal, some of which agreed well with Mr. Duthie's specimens of Pyrus from Glen Catacol, I began to think that the supposed *P. scandica pinnatifida* from Arran must be *P. fennica*, and in order to resolve my doubts I made an excursion to Arran in the first week of June, 1872, and found both partially pinnate and the non-pinnate forms of Pyrus. As soon as I saw the plants growing I was convinced that the non-pinnate and abundant plant was true *scandica*, and the scarce form with leaves pinnate at the base was true *fennica*. *P. fennica* differs from *scandica* in having all the vigorous leaves with from 1 to 4 pairs of the lowest lobes separated quite down to the midrib, and the succeeding pair, or even two pairs, nearly so. From each pair of separated pinnæ above the first there is a decurrent stripe on each side of the midrib, broadest at the point where it leaves the upper pinna, and decreasing in width till it vanishes at the origin of the pinnæ beneath it. The first pair of pinnæ is almost always as long as and no broader than the succeeding pairs on the adjacent unseparated lobes if there be but one pair of pinnæ. The part of the leaf which is not cut into separate pinnæ is ovate or rhompic-deltoid or triangular towards the apex, with lobes decreasing in size towards the apex. The separated pinnæ are oblong-oval or elliptical, usually remotely and coarsely serrate on both margins, often appearing acute from the prominence of the terminal tooth into which its partial midrib runs, but when this tooth is smaller than ordinary the outline appears rounded. The lowest of the lobes which are not separated so far as they are free resemble the pinnæ. The succeeding ones, which are much shallower, are usually more acute towards the apex; besides, the main veins which run into the pinnæ, or the extremity of the lobes, vary from 6 to 10 on each side, but besides these there are often intermediate lateral veins which run into the sinus between two lobes, so that the number of lateral veins is often much greater than that of the lobes. The upper surface of the leaf even in its young state has not a distinct flocculent covering, but has arachnoid hairs, especially along the veins, as in *P. Aucuparia*. The

leaves are generally quite glabrous by the time the plant is in flower, but occasionally traces of them may be observed, even in full-grown leaves. The under side is clothed with grey arachnoid pubescence varying much in thickness and frequently nearly disappearing in the older leaves. The flowers are a little larger than those of the Mountain Ash, of a purer white, though still tinged with cream colour, and have precisely the same pleasant scent as those of the Mountain Ash. The fruit is said by Mr. Duthie to have a sweet taste, while Fries describes the fruit as acid. Taste at the best is not only indefinite, but we want standards to go by. Thus Nyman in his "Sveryes Fanerogamer" describes the fruit as "less sour than those of the Mountain Ash," "rather sweet-sour." Now sour is a term I should never apply to the berries of the Mountain Ash. In Arran *P. fennica* grows in Glen Catacol, in the vicinity of *P. scandica* and *P. Aucuparia*. I saw but one tree of it, close by over a dozen of *P. scandica*, but Mr. Duthie found several trees on the opposite side of the same burn. The tree which I saw was apparently the normal *P. fennica* of Scandinavia, at least its leaves quite resembled those of specimens I have received from Norway and Sweden, but Mr. Duthie collected specimens from different trees, some of which approach closely to *scandica*, and some of them to *Aucuparia*. Those which approached *scandica* have many of the leaves only lobed, only the most vigorous having one or sometimes two pairs of pinnæ separated. The under side of the leaves of these specimens are very thickly grey-felted, and though gathered in the month of July they have not become nearly glabrous. At the other extremity of the scale there are specimens with the greater part of the leaf pinnate, there being three or four pairs of pinnæ and not more than three lobes on each side ; beyond the pinnæ the pubescence on the under side is much less dense, and in some of the older leaves is only observable on minute examination. My belief is that *P. fennica* is a hybrid between *P. scandica* and *P. Aucuparia*. Against this it may be alleged that it is said to be common in Norway, while *P. scandica* is rare there. But ten years ago it would have been said that *P. fennica* grew in Arran and *P. scandica* did not. *P. fennica* is not unfrequently seen in plantations. I have specimens from the Rev. A. Bloxam, labelled "*Pyrus pinnatifida*, the Altons, near Ashby, Leicestershire, May, 1845," and a doubtful one from G. L. Sandys, labelled "*Pyrus pinnatifida*, Berry Hill, near Copford, Dean Forest, Gloucester, 1841. (Mr. H. C. Watson has a specimen with the same label, which he thinks is the same as the Chambéry plant. See below.) My specimen is too imperfect to be sure of, but I think it is nearest *P. fennica*. But Arran seems to be its only native station in Britain.

Smith included *P. fennica* and *P. semipinnata* under his *P. pinnatifida*. I have seen no Continental specimens, except from Scandinavia, and doubt its occurrence in any place beyond the range of *P. scandica*; there are no specimens of it in the collection of Sorbi sent by Prof. Reichenbach.

Pyrus semipinnata, Roth. All the Scandinavian specimens which I have seen named *Sorbus hybrida* clearly belong to *P. fennica*, but those sent under the name of *Sorbus hybrida* from all other Continental localities differ from *P. fennica* in several particulars. The leaves are narrower. There is usually only one pair of pinnæ, and very rarely indeed more than two. The first pair of pinnæ are commonly shorter and frequently broader than the first pair of lobes, if there be but one pair of pinnæ. The pinnæ are oval or ovate, usually entire in the lower half and rather bluntly serrated towards the apex. The lobed parts of the leaf are oblong-triangular, the lobes decreasing towards the apex of the leaf, obtuse and often quite rounded in outline, serrated towards the apex on the outer side, but generally nearly entire on the inner, the terminal tooth rarely larger than the others. The lateral veins on each side are 9 to 13, consequently more numerous than those of *P. hybrida*. The upper side of the leaf when young is densely clothed with arachnoid hairs, but becomes nearly glabrous by the time the flowers expand. The under side of the leaf is clothed with rather loose grey felt, resembling that of *P. latifolia*, more abundant and more dense than in *P. fennica*. By the time the plant is in fruit the leaves become nearly glabrous on the under side, with the lateral leaves standing out in strong relief. As a British plant this seems extremely rare, but it is probable that a specimen in Mr. Watson's herbarium, received from Mr. Borrer belongs to it; the label is as follows: “*Pyrus pinnatifida*, from a moorish wood by the side of the road from Farnham to Farnborough Station, where Mr. Reeves showed me several plants forming part of the underwood, cut periodically. Among abundance of *P. Aucuparia* and *P. aria*.” A note in the “*Phytologist*,” 1854, p. 46, by Mr. Borrer, says, “according to the ordnance map the station observed by Mr. Reeve is within the county of Hants. There are several plants among abundance of *P. Aria* and *P. Aucuparia* between which I cannot but suspect it is a hybrid.” I possess a specimen from the Rev. W. A. Leighton's herbarium, with the label, “*Pyrus pinnatifida* from Castel Dinasbran, planted in Mr. Doveston's Mount Orchard, West Felton, Shropshire”; another from Mrs. Atkins, “Storrington, Sussex, collected by Mrs. Dickson,” and others from Wastdale Head, Cumberland, planted, from the Rev. Augustin

Ley. In the collection of Prof. Reichenbach, so often mentioned, there are four specimens of this, one from Montan de Bourget, près Chambéry, Huguenin. This is the normal form in which the lowest pair of pinnæ only are separated. Another from Wellenger Berg bei Arnstadt Oswal, in which few of the leaves only have even the first pair of pinnæ separated; and thirdly, from Lingerberg in Thüringia, Sinöwheit, which has some of the leaves with one pair of pinnæ separate, but the greater number only lobed. The fourth specimen is from St. Maurice, Vallesia. This last specimen is more like *P. fennica* than any of the others, having one or two pair of separate pinnæ, and the remainder of the leaf less prolonged than usual—rhombic-triangular in one leaf, ovate-triangular in another; nevertheless from the blunt apices of the pinnæ and lobes, with the terminal tooth small, and the margins entire towards the base, and on the inner side. I consider it as *P. semipinnata*, with which it agrees in the closer and finer felting of the under side of the leaf. In my own collection I have normal specimens from "Mont Bosson, près Lausanne, Lercsche," and a very complete series in flower and fruit, from M Huguenin, of Chambéry. These specimens have some one, some two, and some even three pairs of separated pinnæ, while other leaves have none of the pinnæ separated. Garcke in the "Flora of Nord- and Mittel-Deutschland," calls it *Pyrus Aria-aucuparia*, Irmisch, and Wirtgen in the "Flora der Preussischen Rheinprovinz" names it *S. Aucuparia-aria*, Wirtgen—a better name than Irmisch's, as it is nearer *P. Aria* than *P. Aucuparia*.—JOHN T. BOSWELL, July, 1875.

Callitricha obtusangula, Le Gal. "Marshes near Deal, East Kent, June, 1874. I had the advantage of seeing a large patch of this plant growing in the midst of *C. verna*. The occurrence of the two species in close proximity enabled me at once to detect a difference between them, principally from the fact that the former appeared of a much lighter green colour. It will undoubtedly be found to be much more widely distributed in England when specially looked for. Whilst arranging the British collection at the Edinburgh Botanic Garden, I came upon some specimens of this plant fastened down with *C. verna*, and labelled 'C. verna, Ponds, Coombe Valley, Westbury, near Bristol. Comm. Carpenter.' This is at present then its most westerly record, though no doubt requiring to be more fully confirmed."—J. F. DUTHIE, May, 1875.

Apium graveolens, L. 'Culross,' Perth. "As I see in 'English Botany' that 'Apium graveolens' is not known on the east coast, perhaps you may not yet have seen any specimens from Culross (Perth)."

The accompanying poor specimen was gathered in the salt marsh opposite the entrance to the East Avenue to Blair Castle, Culross."—**TOM DRUMMOND**, 1874.

Sison Amomum, Linn. "Penrith, Cumberland."—**J. F. ROBINSON**, 1872.

Œnanthe Lachenalii, Gmel. "I send specimens of this as being from an inland station and new to the county of Surrey. It was found by Mr. Arthur Bennett and myself on Mitcham Common last August in considerable abundance. August, 1875."—**W. H. BEEBY**.

Seseli Libanotis, Koch.—"On the rampart of the Roman camp called 'Arbury Banks,' near Ashwell, Herts. The plant seems to be in danger of extermination, as the 'rampart' is a steep bank about three yards wide between two fields, and will in course of years be gradually ploughed level. The plants quite covered the banks this season."—**THOMAS B. BLOW**, 1874.

Adoxa Moschatellina, Linn., in fruit. "Specimens in fruit are probably rare in herbaria. These are somewhat unsatisfactory from their having been gathered when it had become rather too mature. Near Plymouth I believe the fruit is more frequently produced than the books would lead us to believe is generally the case. I suspect it is often overlooked from its inconspicuous colour, and through its generally being overshadowed by ranker vegetation."—**T. R. ARCHER BRIGGS**, 1872.

Galium anglicum, Huds. "From the only Herts locality, Brocket Park wall, near Lemsford. Though there are many hundred yards of wall the plant occurs only in one place, where, for the space of five or six yards it is plentiful. It has been observed for many years."—**THOMAS B. BLOW**.

Carduus. "Hybrid between *nutans* and *crispus*? From a waste spot by an old limestone quarry between Hay Farm and Elburton. This is certainly not true *nutans*. Its height and slender habit made it look very different when growing. It was gathered near the field that produced the somewhat similar plants I forwarded to the Club last year."—**T. R. ARCHER BRIGGS**, 1873.

Carduus. "In a hollow on Deal sandhills, Kent, growing among dense bushes of *Hippophaë rhamnoides*, and with *Carduus palustris* and rank grass. No other thistle seen near. So dense was the *Hippophaë* that I found it impossible to get at the root of the single specimen found, this had six stems from one root."—**A. BENNETT**, August, 1873. "This thistle is probably a hybrid between *C. palustris* and *C. acaulis*. It resembles the caulescent var. of the latter, but has the leaves more finely divided, and the caudine ones slightly decurrent,

the stem more prickly, not dividing irregularly into several peduncles at the apex."—JOHN T. BOSWELL, June, 1875.

Carduus arvensis, var. "This is the same thistle noticed by Dr. Buchanan White and Col. Drummond-Hay on Ben Lawers two years ago, of which a specimen was sent by me to the Club. It occupies a narrow zone near the foot, reaching for some considerable extent, and was not noticed elsewhere."—H. W. D.-HAY, 1874. "I believe this to be the *Cirsium arvense*, var. *horridum*, of Koch's 'Synopsis.' It differs from the ordinary form in being more slender, and with the leaves extremely undulated and spiny. I have seen it in abundance above the Free Church Manse at Orphir, Orkney, certainly, and I fancy in some other places. In a letter Dr. Buchanan White (who calls it *C. arvense*, var. *elegans*), says it occurs in several other places on the banks of the Tay near Perth.—J. T. BOSWELL, 1875.

Arctium intermedium. "Waste ground by an old limestone quarry, between Hay Farm and Elburton, S. Devon, August 14, 1872.—T. R. ARCHER BRIGGS "A. *intermedium*, without doubt. The elongate peduncles of the anthodes are, as far as I can see, the only constant marks of distinction between this and *eu-minus*."—J. T. BOSWELL, 1875.

Arctium nemorosum, Lej. "Damp Woods, Honington, Warwickshire," August, 1872."—COL. AND COM. FREDR. TOWNSEND. "I do not pretend to know *A. nemorosum*. Prof. Babington, to whom I sent a specimen, says he thinks it is *A. minus* (*eu-minus*), but the specimen appeared to be a side branch, and was not enough to enable him to be sure of the name."—J. BOSWELL, 1875.

Matricaria Chamomilla, Linn. "Fields near Kelso, Roxburghshire. A rare weed in cultivated ground in this district."—A. BROTHERSTON, 1874.

Filago spathulata, Presl. "From cornfields near Croham Hurst, Surrey. Not recorded for this division (D) in Brewer's 'Flora of the County,' but seems not uncommon, and has been observed in several places in this division during the past summer."—W. H. BEEBY, August, 1872.

Senecio vulgaris, L., var. *hibernica*, mihi. "Mr. A. G. More in 1873 sent a fragment of a. *Senecio* from Cork, sent him by Mr. Carroll. This plant is mentioned in the 'Cybele Hibernica,' p. 158, as 'A. *Senecio*, allied to *S. squalidus*, but with much smaller flowers; it may be a hybrid.' In the First Supplement to the 'Cybele Hibernica,' p. 20, Mr. More says, 'The supposed hybrid between this (*S. squalidus*, Linn.,) and *S. vulgaris*, Linn., proves to be the rare variety, with ligulate florets, which has also been found by Mr. N.

Moore, at Lough-on-nare, Donegal.' The scrap sent was insufficient to enable me to come to any decision about it, but as there were some ripe seeds, I sowed them and raised some plants. I think they must be referred to *S. vulgaris*, but are not the same as the Channel Island rayed variety. In the Irish plant the rays are much longer and broader, and are at first flat; but afterwards become revolute. In the Sarnion plant the ray is minute and revolute from the first, as in *S. sylvaticus*. In all other respects the Irish plant is like ordinary *vulgaris*." JOHN T. BOSWELL, June, 1875.

Petasites fragrans, Presl. "Banks and Meadows near Ventnor and Bonchurch, Isle of Wight."—R. S. HILL, February, 1872. "The specimens sent were collected by my friend the late R. Southey Hill, of Basingstoke, near Ventnor, in the Isle of Wight, in the beginning of February last. He informed me that the plant was common and perfectly established in many of the banks and meadows about Ventnor and Bonchurch.—F. J. WARNER. Also in a hedge at Pencraig, Herefordshire, January, 16, 1873, AUGUSTIN LEY; and copse near Forest Hill, Kent, Feb., 1873, W. R. HAYWARD.

Crepis teetorum. "Roadside near Kelso, Roxburgh. This seems to be wild, at least it is not a 'wool' plant, being out of reach of the river; but it may have been introduced with grass seeds. It is almost impossible to say with certainty in a highly cultivated district like this, whether a plant is native or not.—A. B. P.S. I might have had plenty of it; but Prof. Babington to whom I sent it from the same station two years ago, thought it was only a form of the 'polymorphous *C. virens*.' "—A. BROTHERSTON, 1874.

Crepis sp. "Species of an introduced *Crepis*, found in considerable quantity with sown grass in a field at Buckland Monachorum, S. Devon, in June, 1874."—T. R. ARCHER BRIGGS. "This is *C. niæensis*, Balb., of which a specimen is also sent from the neighbourhood of Kelso, by Mr. A. Brotherston."—JOHN T. BOSWELL.

Xanthium spinosum, L. "This grew in some quantity on and about a manure heap in a field close to the town of Plymouth, in the autumn of 1874. *Erodium moschatum* and *Medicago denticulata* occurred with it."—T. R. ARCHER BRIGGS. Also from waste ground at Kenilworth, Warwickshire (H. BROMWICH); and on ballast Birkenhead, September, 1874 (H. FISHER), and from Kelso, Roxburghshire, 1874, about which station Mr. Brotherston sends the following note:—"Introduced with wool; it is to be found in most suitable places (gravelly spots liable to be flooded) between Gala and Kelso. As this plant does not seed here, there must be a fresh supply of seed annually, as there are always some plants to be found every year."—A. BROTHERSTON, 1874.

Hieracium cæsium? "Wankmill Bay, Orphir, Orkney, August, 1873. It is with much doubt that I name this plant *cæsium*, as that so-called species is not understood by me. The plant nearest to this supposed Orkney *cæsium* is the *H. vulgatum*, var. *rosulatum*, mentioned below. A root brought from Orkney is now in my garden, which gives me the means of contrasting it with *H. vulgatum*, var. *rosulatum*, cultivated under precisely the same circumstances. The root-leaves of the Orkney plant are broader, darker, and duller green above and more glaucous beneath, thicker and much harsher to the touch, than in *H. rosulatum*. The stem-leaves (which in each form as cultivated) vary from one to four, are more narrowed at the base, the peduncles have more numerous black hairs, the phyllaries are broader, the inner ones much more obtuse and more folded at the end over the apex of the bud, all of them clothed with more numerous black hairs, the flowers are larger, the styles livid from being clothed with minute hairs, which are dark-coloured from the time the flower opens."

Hieracium vulgatum, var. *rosulatum*, Syme "E. B.", ed. iii., Kirkcaldy, etc., Fife, 1873-4. "This is by far the most common species of *Hieracium* in this part of Fife, and also in those parts of Scotland where I have botanised. I separate it in English Botany as a variety, on account of its thin leaves, mostly radical, and few (1 to 3) stem-leaves. Besides this, on examining the living plant, I find there is another character which appears to be constant. The fresh styles are bright yellow. It is not until the flower begins to fade that the minute hairs on the styles assume a darker colour, so as to become slightly livid. I have not in cultivation the ordinary form of *H. vulgatum*, which is common in the South of England, with numerous stem-leaves and thicker, often evanescent, root-leaves, so that I have not the means of comparing the styles of these two varieties. But the difference between the styles of *H. vulgatum*, var. *rosulatum*, from those of the Orkney plant, supposed to be *cæsium* and *H. maculatum*, cultivated from Plymouth is very marked. They are, indeed, much more similar to *H. pallidum*, which I have also in cultivation from Orrock Hill in this neighbourhood, where it is extremely scarce June, 1875."

Hieracium strictum, Fries, Hobbestee Rocks, Orphir, Orkney, August, 1873, and ? near Devil's Mill on the Devon, Kinross, August, 1874.

Hieracium strictum is another form which I do not profess to understand. The Crook of Devon plant seems to me the same as one named *H. strictum* by Mr. Backhouse, and received by Mr. Baker

under that name, localised from Wensleydale, though according to a note by Mr. Baker in "Topographical Botany," it appears that Mr. Baker now thinks Mr. J. W. Watson, the collector, may have "mixed Lakeland and Wensleydale specimens together." However that may be, the Crook of Devon plant when cultivated becomes extremely like *H. corymbosum* cultivated from the seeds of the Teesdale plant, the seed from Mr. Baker, although the two wild plants are considerably unlike. The Orkney plant I have no doubt about being true *H. strictum*; it is smaller than *H. corymbosum* grown under the same circumstances, has the leaves greener (without any glaucous tinge), harsher to the touch, hairy below, especially on the midrib, and has the stem more wiry and hairy, with rather stiff, spreading hairs, while it is sparingly clothed with woolly hairs, or sometimes nearly glabrous, in the Crook of Devon plant. Neither the Orkney nor the Crook of Devon plant are yet even in bud, so that I cannot compare flowers, etc.

—J. BOSWELL, June, 1875.

Hieracium juranum, Fries. *H. Borreri*, Syme "E. B." ed. iii. "Specimens of this plant from Bex, collected by Dr. Lagger, which I have received since the genus *Hieracium* was written for the third edition of 'English Botany,' have convinced me that my *H. Borreri* is the *H. juranum* of Fries. On coming up from the seed it produces a rosette of stalked, oval leaves; the first year that the plant flowers some of these leaves remain till the flowering is accomplished, but after the first year the flowering stems proceed from closed buds precisely as in *H. corymbosum*. The styles are bright yellow, not fuscous; in all other respects it agrees well with Fries's description." June, 1875.

Menziesia cærulea, Swartz: Sow of Atholl, Perth, August, 1872. H. M. DRUMMOND-HAY, who states that "there were few plants in flower, and what were in that state were chiefly flowers in a double or spurious form, probably owing to the cold and wet season."

Erica Watsoni, Benth. "I have for a long time thought that this hybrid would be found in a locality between Truro and Penryn, and in company with Mr. T. B. Blow, of Welwyn, was fortunate enough to discover it in considerable quantity. It grows in a barren moor which is not likely to be cultivated."—J. CUNNACK, 1874. "Mr. H. C. Watson informs me that Mr. Cunnack's specimens resemble the form described by Mr. Benthem as *E. Watsoni*, more than that found by the Rev. C. A. Johns, which is cultivated in Mr. Watson's garden at Thames Ditton, and from that source has been largely distributed through the Botanical Exchange Club."—JOHN T. BOSWELL, 1875.

Calluna vulgaris, Salisb. "ON LIMESTONE between Billacombe and Elburton, S. Devon. Two or three specimens sent as a record of

the fact of the occurrence of this on LIMESTONE near Plymouth. The very rough rocky ground where it grows is being gradually brought into cultivation, which makes me the more desirous to record the occurrence of this plant there."—T. R. ARCHER BRIGGS, 1872.

Limnanthemum nymphoides, Link. "Lagan Canal at Stranmillis, about a mile from Belfast. It is considered in this locality an introduced species of modern date; nevertheless it is now well established. I have known it in the above station for ten years; occasionally they clear out the canal, and the plant seems lost, but in a year or two it reappears in as strong force as ever."—S. A. STEWART, 1872.

Solanum Dulcamara, L., var. "Hartlepool Ballast Hills. Prof. Babington thinks this is 'a var. of *Dulcamara*, which may be the *S. littorale* of Raab (a bad name, as the form is found inland as well as on the seaside). I have it from a place far from the sea, near Monckton Farley, in Wiltshire.' In another letter Prof. Babington says, 'Yours seems to me to be only a rather more fleshy form (perhaps caused by the salt air) of the usual inland plant in its more hairy form, which I noticed so long ago as 1839 in my 'Flora of Bath.' But the plant then found inland was not fleshy in the least.' I believe this ballast variety to be intermediate between typical *Dulcamara* and *Solanum marinum*, Syme. It is a low bush, with the outside branches straggling, and is more fleshy than *S. Dulcamara*. The leaves are dull green, very soft and downy. On some of the branches every leaf is cordate; on others all are hastate."—R. MORTON MIDDLETON, Jr. "More or less tomentose forms of *S. Dulcamara* are frequent, and the glabrous forms pass insensibly into the densely tomentose. The most marked example of the latter is one sent by the Rev. H. E. Fox from Oxford, which grew on an old wall of Stonesfield slate."—J. T. BOSWELL.

Verbascum phlomoides, L. "King's Sterndale, Derbyshire, 1872. Cult. hort., Sellack, Herefordshire, June 9, 1873."—AUGUSTIN LEY. Mr. Ley's wild specimens sent to the club were scarcely sufficient to enable me to decide the species of this Mullein. I raised it from seed in the garden here, and the plants resulting therefrom and Mr. Ley's cultivated specimens leave no room for doubt of this being *V. phlomoides*.

Linaria supina, Desf. "Well established on railway slope formed of ballast and refuse from coal pits." Hartlepool, June 23, 1872.—JOHN E. ROBSON.

Linaria repens. "The following passage concerning this plant occurs in Ray's 'Synopsis,' date 1696, 'Found by that learned and eminent physician, Dr. Eales, in Herts.' This was probably near

Welwyn, where Dr. Eales resided. During the summer I had the pleasure of seeing what I suppose to be the locality mentioned, or near it."—THOMAS BATES BLOW, 1872.

Veronica peregrina, L. "Plentiful as a weed in the garden and shrubberies, Newtonden, Berwickshire. Mr. Thom (head gardener), when I drew his attention to it, told me that it had been there for a very long time, and that he could not eradicate it."—A. BROTHERSTON, Sept., 1873.

Orobanche rubra. "Frequent in Lizard district. Very abundant only in Serpentine, as at Kynance, Cadgwith, and Poltesco; but found also in no inconsiderable quantities near Polpar, and at head of Househole Bay (*i.e.*, on both sides of the Lizard Lights), where the formation is, I imagine, basaltic."—R. M. ROGERS.

Mentha rotundifolia, var. *alopecuroides*, Hull. "From a ditch by a cottage garden, almost in the station yard, Shalford, Surrey. This plant is most likely introduced here, as it also still grows in the cottage garden on the other side of the ditch."—W. H. BEEBY, Sept., 1872.

Mentha rubra, Sm. "Daply Valley, Common Wood, Egg Buckland, S. Devon. I consider it derived from former cultivation, especially as in one spot it is associated with *M. piperita*."—T. A. ARCHER BRIGGS, Nov., 1872. Also "from ditches, Beausale Common, Warwickshire, Sept., 1874."—H. BROMWICH.

Salvia pratensis, L. "From the same locality from which it was sent last year by Mr. Linton. As far as I could observe it was not common, but pretty widely distributed over an area of four or five square miles—*e.g.*, border of a wood above the ponds, Charlbury Park; meadow near the head keeper's house; lane leading thence to Stonesfield."—H. E. FOX.

Salvia verticillata, L. "In a grass field of not less than two years' standing, Leigham, Egg Buckland, S. Devon. About half a dozen patches of this conspicuous plant in this field in July last, where, as *Trifolium hybridum* occurred, it was probably sown with foreign clover and grass seeds a year or two before, though it is not exactly the sort of plant we should expect to find introduced in this way."—T. R. ARCHER BRIGGS, 1872.

Stachys germanica, L. "Itchin Abbas, Hants. I first discovered this plant in 1851, in this neighbourhood. The late Dr. Bromfield, I remember, came here from the Isle of Wight on purpose to inspect it, and was quite satisfied with its being really wild. The following year, the field, in a corner of which it grew, was 'breast ploughed,' and I thought the plant was destroyed. In fact, it disappeared

altogether for a long period ; but latterly it has come up again on the same spot as vigorously as ever. It is not abundant."—W. W. SPICER, 1872.

Galeopsis Ladanum, Lin., var. *intermedia*, Vill. "Gravelly banks, Modpe, Denbighshire, July, 1872."—MISS ELIZABETH JONES.

Teucrium Chamædrys, L. "The specimens sent were gathered from a hedge, remote from any dwelling, near St. Just in Pennith. It is probably an escape from an old garden, as the plant is cultivated in other parts of the district by herbalists."—JAMES CUNNACK, 1874.

Echium plantagineum. "I believe my friend, J. Ralfs, Esq., of Penzance, was the first who observed this in fields near Cape Cornwall, where it is found in some quantity. The specimens sent to the Club were taken in October. Like *Genista pilosa*, it would seem to flower twice a year. The young leaves from offsets are sent with the flowering specimens."—J. CUNNACK, 1874. "Found growing abundantly in the autumn of this year in a sandy field half a mile from St. Just, Cornwall. A few scattered plants were flowering on waste ground and in fields adjoining, and a second locality, some distance from the former one, has since been discovered."—ELIZ. A. LOMAX.

Myosotis sylvatica, Ehrh. "Border of wood, top of Titsey Hill, eight miles from Croydon on the Westerham Road. To confirm County."—A. BENNETT, July, 1874.

Statice binervosa, G. E. Smith, var. *intermedia*, "E. B.," ed. iii. "Isle of Portland, Dorset."—H. E. FOX, 1872. "These specimens have the spikes curiously contracted and dense, but are certainly not the Continental *S. Dodartii*. The Rev. H. E. Fox informs me that they are from two stations, a mile or so apart, in one of which Mr. T. B. Flower and myself gathered the ordinary form of *intermedia* eight or nine years ago. It must have been some peculiarity of the season which prevented the full development of the plants gathered by Mr. Fox. I fear there is some mistake about *S. Dodartii* occurring in Portland ; at all events that it does not occur there now."—JOHN T. BOSWELL, June, 1875.

Amaranthus deflexus, L. "Waste ground, Kenilworth, Warwick, September, 1874."—H. BROMWICH. The only reason for noticing this plant is lest it should be taken as a recent occurrence of the somewhat similar *A. Blitum*, L., in England.

Amaranthus retroflexus, Linn. "A weed in the garden at Fleet Pond Station, Hants."—H. C. WATSON, 1873. In a letter Mr. Watson informs me that there were about a dozen plants of this among potatoes in the garden, along with *Setaria viridis*. Although this plant must be reckoned a 'casual,' it seems to be of more frequent occurrence lately."—JOHN T. BOSWELL.

Chenopodium polyspermum, Linn. "Newton Don, Berwickshire, Sept., 1873. Both varieties plentiful in a recently ploughed old pasture field."—A BROTHERSTON.

Chenopodium glaucum, Linn. "Var. from Guernsey, Garden, 1866; seeds from the Isle of Guernsey, 1865."—H. C. WATSON. "This form is very different from *C. glaucum*, as it occurs not unfrequently in the vicinity of London, which has the leaves lanceolate or the upper ones strap-shaped, both with subrhombic or wedge-shaped bases, acute apices, and a few large, acute, but not very prominent teeth on each side, the leaves becoming smaller and smaller the further up they are placed on the stem. The inflorescence is a panicle, of which the lateral branches are axillary spikes, not much interrupted, and with minute linear or strap-shaped acute leaves at the base of the glomerules in their lower half, except at the very apex of the stem, where the glomerules which form the spikes are leafless. In the Guernsey plant, which was collected by Mr. Watson at St. Sampsons, the leaves are oval or ovate, or elliptical-oblong, obtuse, undulated, or with a few blunt and inconspicuous teeth on the margins. The leaves do not decrease upwards to any great extent, the spikes are so much separated that the inflorescence cannot be called a panicle, but consists of a number of axillary glomerules, or short, leafless, interrupted spikes. The form appears to be constant, as Mr. Watson has sent me a specimen of it from his garden in 1874, believed to be descended from the Guernsey stock formerly sown there. I have seen the same form from ballast at Inverkeithing and St. Davids on the Firth of Forth."—JOHN T. BOSWELL, 1875.

Rumex rupestris, Le Gall? "Lewes Levels, Sussex, Aug. 1874. Without guaranteeing this for *Rumex rupestris*, Le Gall, it seems to me, as far as I can ascertain, to approach very near to the right thing, if not the right thing actually."—J. L. WARREN, 1874. "This is what I suppose to be the plant so named by the French botanists. I suspect it to be 'trigranulate' *R. nemorosus*. I have sown seeds of this, but they have not yet germinated."—JOHN T. BOSWELL, 1875.

Rumex, hybrid between *pulcher* and *nemorosus*? "Pasture, Tothill, Plymouth, S. Devon, July 31, 1873." "Also waste ground, Torpoint, East Cornwall, August, 1873."—T. R. ARCHER BRIGGS. "Both of these docks appear to me intermediate between *R. pulcher* and *R. conglomeratus*, the one from Torpoint, East Cornwall, approaching most closely to *pulcher* in its divaricate branches, while that from Tothill, Plymouth, has the branches ascending or spreading, ascending as in *R. conglomeratus*. None of the specimens have root-leaves, and the leaves at the base of the branches on both are oblong, or oblong-strap-

shaped, both forms having minute leaves at the base of the whorls of the lower branches. Very few fruits appear to have been matured, though I was able to get a few apparently perfect seeds which are sown but have not yet come up. The enlarged petals are about the size of those of *R. conglomeratus*, and consequently considerably smaller than those of *R. pulcher*. Some of them are entire, while others have one or two teeth on the margins towards the base. The basal portion of the petal is strongly reticulated, with very prominent veins, as in *R. pulcher*. The petals of the fruits which contain mature seeds are each furnished with a large red grain similar to that on the petals of *R. conglomeratus*. Sometimes the grains are of equal size, sometimes one larger than the other two, and sometimes two of them larger than the third. Had I seen the Torpoint plant only, I should have thought it might be depauperized *pulcher*."—JOHN J. BOSWELL, June, 1875.

Rumex obtusifolius, L., var. β *agrestis*, Fries? "Nov. Fl. Snie.," ed. ii., 99? "Cultivated fields, Invertiel, Kirkcaldy, Fife, and at Cowdenbheath, Fife, August, 1873. This plant differs from *R. obtusifolius*, var. *Friesii*, which is apparently the commonest form of *obtusifolius* in Britain, in having the branches of the panicle curved and ascending erect, so that the panicle is much narrower and less straggling than that of *Friesii*. The enlarged petals are considerably smaller, and the teeth often shorter. From the var. *sylvestris* (noticed below) it differs in having the spines at the edge of the petals always present and long."—JOHN J. BOSWELL, June, 1872.

Rumex sylvestris, Wallr. "On the Surrey side of Thames between the Putney and Hammersmith Bridges. About 200 individuals there this year, and as many in the autumn of last year, when I first noticed its difference from typical *R. obtusifolius*. It is only due to Dr. Trimen to say that the plant would probably have never been named as above, except for the help of a specimen gathered by him during his Danish journey of this year. I suppose this the first English record of this dock."—J. L. WARREN, 1872.

Rumex pratensis, M. & K. "Near Brodick, Arran, September, 1872, and Swanbister and Gear, etc., Orphir, Orkney, August and September, 1873. These few specimens have been sent out, as it increases the range of this doubtful plant in Britain. The British specimens I have seen do not agree well with the Scandinavian specimens I possess of *R. cristatus*, with the exception of a specimen shown me by the Honourable J. L. Warren from Sussex. This has deltoid petals, and distinctly spiny margins, with strong veins running out into the centre of the spine, as in *R. obtusifolius*, but

shorter than those in that species, while in *R. pratensis* of this country the margins are rather denticulate than spinous-dentate. From the seeds of the Scandinavian *R. cristatus* I raised a plant which was almost identical with *R. obtusifolius*, Fries, except that the entire portion of the sepal was short, so that the whole was dentate instead of triangular or oblong-triangular."—JOHN T. BOSWELL, June, 1875.

Rumex conspersus, Hartm. "Cowdenbeath, Fife, and Inverteel, Fife, 1873 and 1874. This plant appears widely spread wherever *R. crispus* and *R. domesticus* grow in company. If, however, it be a hybrid it is a perfectly fertile one, and like *pratensis* comes true from seed."—J. BOSWELL.

Rumex crispus, L., var. *subcordatus*, Warren. "Teffont, Wilts, October, 1872. Also seen at Lewes, Sussex, July, 1872. I have ventured for sake of reference to name this odd plant so provisionally. It differs from ordinary *crispus* by its great size (five or six feet) and by the shape of its enlarged sepals, most of which are more or less *toothed*. It approaches the *R. propinquus* of Prof. Areschoug paper, but is not that plant according to the Professor himself, to whom I forwarded a specimen."—J. L. WARREN. "Of this form of *R. crispus* I have sent specimens from various places in Fife and Kinross, under the name of *R. crispus*, var. *dentatus*, Warren. In a letter received a few days ago from that gentleman he proposes to apply to the variety the name 'dentatus' or 'serratus,' and, as will be seen, the new name is more appropriate than either of the older ones, which I believe have not been published. This variety has rather a lax panicle, having the branches frequently elongate, and not adpressed, by which it may be always distinguished from *R. domesticus*. The enlarged petals are larger and broader than in the common form, being deltoid or subrotund-deltoid, very frequently denticulate or at least erose towards the base. Only one of the three bears a tubercle, which is variable in size and shape. The denticulation at the base of the petals is not a constant character, though their form appears to be hereditary. From the seeds of a plant of this variety found at Balmuto, which had the petals quite entire, I raised plants which had them conspicuously dentate at the base, though still maintaining their subrotund-deltoid shape."—J. T. BOSWELL, June, 1875.

Rumex (sp.): "Single specimen sent from the side of a tidal inlet from the river Erne, a little below Efford, Holbeton, South Devon. Without tubercles, and considerably like *R. domesticus*, but possibly a variety of *R. crispus*. Only one root was found."—T. R. ARCHER BRIGGS, 1874. This *Rumex* is evidently a form of *crispus*, somewhat intermediate between vars. *subcordatus* and *elongatus*. It

has the lax panicle and elongate branches common to the two vars., but like the first it bears only a single tubercle, which is of small size and gradually tapering into the midrib of the petal, as is sometimes the case in var. *subcordatus*, but the fruit petals are small, and ovate-deltoid or triangular-ovate, as in var. *elongatus*, of which an account by Dr. Trimen will be found in the "Journal of Botany," 1873, p. 237.

R. crispus, var. *trigranulatus*, mihi. "Swanbister, Orphir, Orkney, 1874; Brodick Arran, 1873; Seafield, near Kirkealdy, Fife, 1874. I propose the name of *trigranulatus* for a littoral variety of *crispus*, which has a very dense panicle, with short, adpressed branches and small triangular-ovate fruit-petals, each of the three bearing a conspicuous tubercle. This form is reproduced from seed. The panicle has somewhat the appearance of *R. domesticus*, but in no other point does the plant approach that species. It agrees with var. *elongatus* in the shape of the petals and in cell, three bearing tubercles, but it differs in the compact panicle and the radical leaves being very strongly crisped. The Honourable J. L. Warren in a letter suggests that possibly the position of *elongatus* at Putney growing in the tidal mud and under water at every tide may cause the root-leaves to uncurl and flatten out, and he thinks that specimens which Mr. H. C. Watson got with him at Putney, and is now growing in his garden, are reverting to rather crimped root-leaves. Mr. Watson supplied me with ripe seeds of *elongatus*, but none of them have germinated. I have frequently found the seeds of docks lie dormant for two or three years, if they be not sown immediately on ripening, which is best."—J. T. BOSWELL.

Rumex Hydrolapathum, Huds. "Mr. H. C. Watson has sent me a number of examples of the radical leaves of *R. Hydrolapathum* from the Thames side, near Moulsey, and Surrey Canal, from Woking to Byfleet, collected in 1874. These leaves show the transition from the attenuate to the abrupt and even subcordate form of base. Some of the specimens, particularly one from a plant by the Thames side just above Moulsey Hurst, has broadly oval-ovate leaves, with subcordate bases assigned to *R. maximus*, Schreb. Unfortunately this root was so placed as to be on a sort of stand for fishers, while the Thames was low in summer; thus no fruit-stem was perfected, and nowhere did Mr. Watson find fruit-perianth so much dentate as in Sussex *maximus*. For my own part I lay more stress on the shape of the enlarged petals than on their dentition, and I have not seen any British specimens, except Mr. Warren's Sussex ones, which approach the Continental *maximus* in shape and size. I have not yet been able to obtain British specimens of *R. maximus*, and should be much indebted to any botan-

nist, who may visit Lewes, for fresh or dried specimens of it. Mr. Warren was kind enough to give me some ripe seeds, which, however, have not germinated. I have some fears that they may never do so, as I sowed five or six years ago Continental seeds which failed to grow, though those of *R. Hippolapathum*, Fries. (*aquaticus*, 'L.', Koch, &c.) gathered at the same time and treated in the same way produced a number of plants. M. Crepin, in his notes 'Quelques Plantes rares ou critiques de la Belgique,' fasc. v., p. 78, endeavours to show that *R. maximus* tends much more to *R. aquaticus* (i.e., *Hippolapathum*) than to *R. Hydrolapathum*. This is certainly not the case with the British *R. maximus*."—J. T. BOSWELL.

Polygonum dumetorum, Linn. "Hooks Bushes, Tewin, near Welwyn. Last year I could find only a few small specimens, but this year it was very abundant in one place."—THOMAS B. BLOW, 1874.

Daphne Laureola. "Seemingly in a wild state, growing on some high and almost inaccessible cliffs near this (Seggiaden, between Balthayock and Glencorse), at a point far from any garden or houses, and it had all the appearance of being perfectly wild, seeding freely under old blackthorn bushes on a warm southern aspect."—H. M. D. HAY, 1872.

Ceratophyllum demersum. "Pond on Weston Green, Thames Ditton, Surrey."—H. C. WATSON. "In a letter Mr. Watson mentions that the spines at the base of the fruit elongate as the fruit grows, but are scarcely perceptible at first."—J. T. BOSWELL.

Salix undulata, Ehrh. "Near Cambuslang, Lanarkshire, May 2, 1874."—RICHARD MCKAY.

Salix Forbyana. "Trysull, Wolverhampton, Staffordshire, September 26, 1873."—JOHN FRASER.

Salix acuminata. "Trysull, Wolverhampton, Staffordshire, May 19, 1873."—JOHN FRASER. "Also St. Germain's Loch, New Kilpatrick, Dumbartonshire."—RICHARD MCKAY.

Salix laurina. "St. Germain's Loch, New Kilpatrick, Dumbartonshire."—RICHARD MCKAY.

Salix phylicifolia, var. *Weigeliana*. "Possil Marsh, Lanarkshire, 1873 and 1874."—RICHARD MCKAY.

Salix laxiflora. "Clyde Ironworks, Lanarkshire, 1873 and 1874."—RICHARD MCKAY.

Typha angustifolia, L. "A young specimen from the river bank of the Tavy at Lapwell, with three foliaceous bracts, one older specimen with the bracts gone. I suspect that the male spikes of this will be found to be always furnished with foliaceous bracts, but that their

very deciduous character has caused the contrary to be stated (*vide* 'Eng. Bot.', ed. 3, vol. ix., p. 4). Also two specimens from a pond between Landrake and Tideford Cross, East Cornwall, each with three foliaceous bracts, and having the male and female portions of the spike contiguous, or very nearly so. In this latter plant the spikes are remarkably long."—T. R. ARCHER BRIGGS.

Potamogeton polygonifolius, Poir, var. *linearis*. "In the 'Long Range,' between the upper and middle lakes of Killarney, Co. Kerry."—R. M. BARRINGTON, June, 1874. "Two years ago Mr. A. G. More sent me a specimen of a *Potamogeton* gathered by him at Ballinahineh, Co. Galway, which he 'had labelled *polygonifolius*, var., but afterwards came to think that it came very near indeed to *P. sparganiifolius*, though slighter and more slender than the Maam plant.' The specimens were without flower or fruit, without which it is impossible to be certain about *Potamogetons*, but as far as it went I was inclined to agree with him. In 1873 he sent me some fresh specimens from Killarney, which were apparently the same as the Ballinahineh plant, but had the leaves shorter and narrower; it also was without flower or fruit. In looking over the *Potamogetons* of the Edinburgh University Herbarium I found a specimen of the same plant collected by Colonel Madden: this also was without flowers or fruit, and bore considerable resemblance to the *P. variifolius* of Thore. In June, 1874, Mr. More asked Mr. Richard M. Barrington, who was at Killarney, to send me fresh specimens of the plant, if possible in flower; and in answer to this request I received from him a tinful of the plants in a fresh state, with a letter, from which I extract the following:—"June 27, 1875. The water it grows in is from four to ten feet deep, and is in motion. The motion is, however, very slight, as might be expected; the phyllodes are longer and more thread-like where the water moves quickest; the plant is very abundant, interfering with the motion of the boat in some places. It does not seem to flower very extensively, as there were many patches quite barren. There are two or three pieces at the bottom of the canister which I obtained near Oak Island. They are not quite the same. These specimens were quite sufficient to settle that the plant was a form of *polygonifolius*. The peduncles and flowers were quite similar, and the stems unbranched. The floating leaves were mostly one to two inches long on the plants from the long reach, but some of those on Oak Island exceeded three inches. They were regularly elliptical or oblong-elliptical, and had a red tint, which however became a brilliant green when placed in an aquarium. The point in which they differ from the ordinary deep-water form of *P. polygonifolius* (the var. *pseudo-*

fluctans of E. B., ed. iii.) is that the lower submerged leaves are narrowly linear, being from six to eighteen inches long by $\frac{1}{2}$ by $\frac{1}{8}$ to $\frac{1}{5}$ broad, not rigid, like the leafless petioles of *P. natans*, which they resembled in breadth. Neither had the floating leaves the coriaceous substance carried down into the petiole, as in *P. natans*. To this form I have given the name var. *linearis*. Mr. A. Brotherston has sent me from Floors, near Kelso, a specimen of a *Potamogeton* without flowers, which I think will prove to be the same as the Killarney plant. I hope he may be able to obtain a supply of it in flower and fruit for the Botanical Exchange Club. In looking over the Edinburgh Herbarium I saw a fine specimen of the *P. sparganiifolius* similar to the Maam plant, with a label stating that it was gathered in Loch Neagh by Dr. D. Moore, of Glassnevin. In the same collection there were very fine specimens of *P. pseudo-fluitans*, with the submerged leaves six inches by $\frac{3}{4}$ broad in the middle, labelled from the Leven, Loch Lomond."—J. T. BOSWELL, June, 1875.

P. nitens, Web. "A single specimen gathered by me in the Bay of Islands, Upper Loch of Stennis, Orkney, August, 1873."—J. T. BOSWELL.

Potamogeton lucens, L., var. "Kinghorn Loch, 1873 and 1874. In 1873 I found a few small patches of a *Potamogeton* in the north-west corner of Kinghorn Loch, which when in the water resembled in colour and apparent texture a broad-leaved form of *P. polygonifolius*. On rowing to the place and gathering it, it turned out to be what I had never before seen, *P. lucens*, producing subcoriaceous floating leaves. They were of a bright yellowish-green colour and firm consistency, much of which they lose when drying. Their petioles were extremely short in this, forming a great contrast to the floating leaves of *natans*, *polygonifolius*, and *heterophyllus*. Some of the specimens had the leaves broadly ovate and shortly stalked, but still of the usual membranous texture and translucent appearance. Very few of the plants flowered, and not a single one fruited in spite of many diligent searches. The water in 1873 was from one to three feet deep where the plant grew. In 1874 Kinghorn Loch stood at a much lower level, and the *P. lucens* was left dry, as well as the *P. natans*, with which it grew intermixed. The stems had become extremely short and decumbent, few of them above six inches long; the submerged leaves had entirely withered, from being exposed to the air, and only those which were furnished with an epidermis remained, forming small rosette-like tufts of nearly sessile leaves. No flower or fruit was produced, so far as I could find."—J. T. BOSWELL.

Zannichellia polycarpa, Nolte. "Kerbister Loch, Orphir, Orkney,

July, 1874."—WILLIAM FORTESCUE. "In 1849 I gathered in Kerbister Loch a *Zannichellia*, which remained unexamined until I came to write the 9th vol. of 'Eng. Bot.', ed. iii., when I found that the style was much shorter than the ordinary forms of *Zannichellia*. What I could say of it then will be found in 'Eng. Bot.', vol. ix., p. 57. In this notice there is a misprint of *Swanbister* Loch, instead of Kerbister. After this paragraph was written, Mr. Baker showed me a specimen of the Orkney *Zannichellia* gathered by me, which in some indirect way had found its way into Mons. Gray's herbarium. In this the name *palustres* was altered by Mons. Gray to *polycarpa*, Nolte. In 1873 I again visited Orkney, and determined to satisfy myself about the *Zannichellia*. Unfortunately, however, the season was a wet one, and I did not reach Orkney before August, by which time the loch had far surpassed its summer level, and no trace of the growing *Zannichellia* was to be seen. A few battered fragments I picked up on the shore, and a few fresh specimens were procured for me by my nephew, Mr. William Fortescue, by throwing in a small anchor with a line to the place where the *Zannichellia* ought to grow, and then dragging it to shore. The fruit was not quite ripe, and in this state was convenient. The specimens quite agree with Scandinavian specimens of *Z. polycarpa* received from Dr. Alberg of Stockholm. In 1874 my nephew dried a large number of specimens, which have been sent out to the members of the Club. In some of these the nuts are immature, and the style appears longer than it does when the nut has attained its full size. In others the fruits, though mature, have become divaricate, but I am not sure whether this has not been produced in the process of drying. I see that Koch in his 'Synopsis Fl. Germ. et Helv.' makes no mention of the carpels being convenient; so possibly this character is not consistent. *Z. polycarpa* can at the best be considered but a subspecies, and, indeed, presents no more claim to distinction than *Z. pedicellata*, Fries."

Alisma natans. "Canal between Nottingham and Charlton Bridge, north of Charlton, Cheshire."—F. M. WEBB and J. L. WARREN.

Orchis laxiflora. "On ballast at Hartlepool, several plants occurring along with *Cynosurus echinatus*, *Bromus maximus*, and other Sarnian species: near it one fine plant of *Scolymus hispanicus*—a strange species to be found in such a spot, but on the other parts of the hills *Orchis pyramidalis* is quite at home, occurring every year."—F. ARNOLD LEES, 1873. "The specimen sent to me by Dr. Lees is *O. palustris*, Jacq. Of course such a casual as that would not need mention, were it not that a similar plant is said to have been found in Guernsey in 1872, by Dr. F. Arnold Lees. See 'Journ. Bot.', 1873, p. 209. The editor of the 'Journal of Botany' says that 'they are

intermediate in their characters between typical *O. palustris*, Jacq., and *O. laxiflora*, and are one of a chain of plants which connect the two, and which can therefore scarcely be separated even as varieties. In this paper by Dr. Lees, he says, "I sent specimens of the Guernsey plant to Dr. Syme for the Botanical Exchange Club, having previously distributed examples to various other botanists. Dr. Syme identifies my plant with *Orchis palustris*, Jacq." Now Guernsey here is a misprint, or a slip of the pen, for Hartlepool, for the only *Orchis* which Dr. Lees sent, was a single specimen from Hartlepool on ballast. In 1853 in both Guernsey and Jersey I saw hundreds of specimens of *O. laxiflora*, but not one approaching *O. palustris*, though I specially looked for it. Neither have I seen from any other collector any specimens that could be called *O. palustris*."—J. T. BOSWELL.

Spiranthes aestivalis, Rieh. "Between Lindhurst and Christchurch, Hants, August, 1874. Specimens are sent to show the plant not extinct as has been reported. Still rare there: about twenty-five plants seen in about three-quarters of an hour's search over the bog. Could only take very sparingly from the limited number."—A. BENNETT.

Cephalanthera ensifolia. "Woods at Seggieden, Perth. This I found this spring for the first time in this neighbourhood, and it being quite new to the Carse of Gowrie I send a specimen; the only other station I am aware of for it in the vicinity of Perth is the Methven woods, nine miles from the present locality."—H. M. DRUMMOND-HAY, 1872.

Iris tuberosa. "Penzance, March 1, 1874." Collected for E. A. LOMAX.

Narcissus poeticus plenus. "Field-Mynydd y bryn, Shropshire, June 12, 1872. I send specimens of a double white *Narcissus*; I found it growing plentifully on Mynydd y bryn, a hill in Shropshire; it grows in a field in a thicket and near the hedge; no house is in sight, or very near. I have seen the same *Narcissus* in another very wild-looking place, called Carryg y byg, but there it looks as if it had at some time been planted."—ELIZABETH JONES.

Allium Ampeloprasum, L., var. *bulbiferum*. "This form seems the commonest. I have met with var. *genuinum* more rarely, but it may be found with the former in three places in Mullion, always near orchards, but I think it is indigenous."—J. CUNNACK, 1874.

Allium Babingtonii. "The specimens I have sent were gathered on a waste rocky piece of gravel in Poltesco Valley, where about forty or fifty heads were seen. I am of opinion that it is a native here."—J. CUNNACK, 1874.

Allium oleraceum, Linn. "Hedge bank, Cold Harbour Lane,

Croydon (perfectly wild), Surrey. New to county; first found by Mr. Kelly in 1866."—A. BENNETT, August, 1874.

Allium carinatum, "Linn.", Fries. "Wall at Milford, near Godalming, S. W. Surrey, August, 1872. Specimen sent raised from head bulbs collected as stated, and gathered from my own garden."—A. BENNETT, August, 1874. "This can scarcely be a native station, but the plant spreads so rapidly from head bulbs that it would probably become established in the vicinity. Mr. A. Craig-Christie informs me that he has met with this plant on the banks of the Esk, some distance above Musselburgh, and on the banks of the Almond near Kirkliston."—J. T. BOSWELL.

Allium sibiricum, L. "In great quantities from Kynance Cove to Mullion, especially where water has stood."—R. M. ROGERS, 1874.

Allium triquetrum, L. "It is most abundant near Helston, Cornwall, and increasing its area. I feel assured that it is perfectly wild."—J. CUNNACK, 1874.

Luzula (nivea, DC.?) "On a railway bank, near Shaugh Bridge, South Devon."—COL. T. R. ARCHER BRIGGS, 19th May, 1874. "This is *L. albida*, DC."—JOHN T. BOSWELL.

Luzula Forsteri, DC. "A specimen or two from Mothecombe, South Devon, having the capsules more or less in an abortive state, similar to that constituting the *b. Borreri* of *L. pilosa*. A specimen of this latter sent for comparison."—T. R. ARCHER BRIGGS.

Juncus capitatus, Weigel. "I send a few Cornish specimens from the station in which I first observed this plant, viz., near the Land's End, Cornwall."—W. H. BEEBY, June, 1872. "The specimens sent were given me by Mr. Curnow, of Newlyn, and were gathered near Penzance. Mr. Ralfs has informed me that he had found it nearly twenty years ago at Chy-an-hal Moor, in the parish of Paul."—J. CUNNACK, 1874.

Juncas pygmæus. "Lizard Down and Kynance Down, Cornwall, June, 1873. This is most abundant. In June, 1874, I found it in the parish of Grade, and think it may extend along the western coast. It appears, flowers, and disappears in a very short time. On the 8th May none were to be seen, and by the middle of June it had gone altogether."—JAMES CUNNACK, December, 1874. "This rush, discovered by Mr. W. H. Beeby, in 1872, will be a welcome addition to most of the members of the Botanical Exchange Club."—JOHN T. BOSWELL.

Claudium Mariscus, Br. "Loch near Killis, Islay, Argyll."—J. R. DRUMMOND, August 7th, 1872.

Kobresia caricina, Willd. "Wet grassy slopes, Ben Lavigh, Perth."—T. BUCHANAN WHITE and H. M. DRUMMOND-HAY, August,

1874. "Many members of the Club will doubtless be glad to have Scotch specimens of this local plant."—J. T. BOSWELL.

Carex Ehrhartiana, Hop. "Sutton Park, Birmingham. I have forwarded as large a supply of this plant as I could get this year, but have not been able to get roots, as it grows some distance from the margin of the pool in which I find it. It is fairly abundant in one spot in Sutton Park, but does not occur elsewhere to my knowledge. *Carex paniculata* is abundant at Sutton, but *teretiuscula* does not occur anywhere in North Warwick. How this variety of *teretiuscula* (if it is a variety of that plant) got here seems very puzzling."—J. BAGNALL.

Carex axillaris, Good. "Solehill, Warwickshire. Of this I have only sent a few plants, just to register its occurrence in a new locality in Warwickshire, the old locality having unfortunately been destroyed. It was very abundant, and grew intermixed with *Carex remota* and *Carex vulpina*."—J. BAGNALL, July, 1873.

Carex striata. "Marshes, Portmore, Co. Antrim."—S. A. STEWART, April 20, 1872. "A curious form with elongate fruits much exceeding the length of the nut. It seems to be to ordinary *C. stricta* very much what *C. Gibsoni* is to ordinary *C. vulgaris*."—J. T. BOSWELL, 1875.

Carex acuta. "Carmyle, Lanarkshire."—RICHARD MCKAY, July, 1873.

Carex Watsoni, Syme. "Bog at Ferniegair, near Hamilton, Lanarkshire; and Clyde, four miles east of Glasgow."—RICHARD MCKAY, June, 1872.

Carex punctata. "Near St. Austle, Cornwall."—J. CUNNACK, July, 1872. "These are the most typical specimens of *C. punctata* which I have seen from Britain. M. Bailey's Tenby specimens are similar to the South of Ireland and Kircudbrightshire examples."—JOHN T. BOSWELL, 1875. "The station for this species is also Tenby, August, 1873, on ledges of perpendicular rocks in a small bay called the Waterwinch, to the north of Tenby (as stated in the 'Journal of Botany'). Mr. Joseph Sidebotham, of Manchester, informs me he has found this species higher up the same stream, which discharges itself in the Waterwinch; also in another small bay a mile distant from Waterwinch. I have also a suspicion that the plant occurs in the neighbourhood of Lydstep in the opposite direction."—CHARLES BAILEY.

Carex fulva, Good. "Bog, Viverdin Down, East Cornwall. Not recorded for its county in 'Comp. Cybel. Brit.', and only doubtfully for Devon. Thus this station considerably extends its area."—T. R. ARCHER BRIGGS, 1872.

Carex eu-flava, var. *a. genuina*, Syme. “ ‘ Cybel. Brit.,’ prov. xii., sub-prov., county 69. Ditch, Hazelslack, Arnside Moss, Westmoreland.”—CHARLES BAILEY, July 7th, 1874.

Carex involuta. “ Mainly sent because this new station extends the range of this local *Carex* some eight miles south (with a touch of west) from Hale Moss. I am told that the sedge grows rather finer than in that original station.”—J. WARREN. “ I hope I am right in assigning this note of Mr. Warren’s to *C. involuta*, but it had no name written at the top of the paper. It is earnestly requested that any member sending any note about a plant, will begin it with the name of the plant and the locality where it was found.”—JOHN T. BOSWELL.

Digitaria sanguinalis, Scop. “ Kelso, Roxburghshire, Sept., 1874. Stragglers only on cultivated ground.”—A. BROTHERSTON.

Phalaris paradoxa, Linn. “ Cultivated fields, Swanage, Dorsetshire, July, 1874.”—T. B. FLOWER. “ Supposed to have been introduced in the soil of some orange trees. It grows nowhere else in England. Growing in great abundance in a wheat-field, and on the roadside beyond.”—ELEANOR OTTE, Swanage, Dorset, August 9, 1872.

Apera interrupta, Beauv. “ The specimens were gathered in fields near Dirleton, Haddingtonshire, on the 3rd of July, 1872, where it was growing in very great quantity. It might readily be thought indigenous, but the locality is one where plants seem to establish themselves when introduced with corn seeds. At all events it has been settled there for some years.”—J. R. DRUMMOND.

Agrostis setacea, Curtis. “ A few specimens collected from considerably over 1000 ft. on Dartmoor.”—T. R. ARCHER BRIGGS.

Psamma baltica, Roem. & Sch. “ Ross links, Northumberland, August, 1872.”—WILLIAM RICHARDSON and P. W. MACLAGAN. In a note dated 6th August, 1872, Dr. MacLagan writes:—“ Under the guidance of Mr. Richardson I went to-day to Ross sands, and got the *Psamma baltica*. There can be no question of its being truly native, extending at intervals along the links for at least three miles.”

Calamagrostis Hookeri, “ E. Bot.,” iii. “ Gravelly shore, Scawdye Island, Lough Neagh, Co. Tyrone.”—S. A. STEWART, June 6, 1870.

Melica uniflora, Retz. “ Auchtertool Linn, Fife, July, 1874.”—J. T. BOSWELL.

Poa sudetica, Haenke. “ Woods near Kelso, 1874. To all appearance this is wild in many of the woods, both in Roxburgh and Berwick shires.”—A. BROTHERSTON.

Cynosurus echinatus. “ Common on the Hartlepool ballast, and becoming so in many fields around. In 1872 I noticed it as far as four miles from the town, in fields.”—F. ARNOLD LEES, 1873.

Bromus arvensis. "Tweedside, Kelso, Roxburghshire, 1874. This was gathered partly in June and partly in September. In September the spikelets are much larger (owing, I think, to the wet weather), like *patulus*, but the pales are equal and the anthers long. Introduced with wool and also with grass seeds."—A. BROTHERSTON. Some of Mr. Brotherston's specimens bear a great resemblance to *B. patulus*, but they have the long anthers and subequal outer and inner pales of *B. arvensis*. The spikelets are wholly green as in *patulus*; in the dried plant it is impossible to see the striking difference in the structure of the two. *B. patulus* has the panicle freely drooping, the spikelets all hanging over to one side, while in *B. arvensis* it is scarcely one-sided; when it is in flower the longer, and stiffer peduncles spread widely, and the upper inner ones are erect.

Bromus (patulus, Mert. and Koch?) "Some specimens from an immense root of what seems to be this, found near Marsh Mill (flour mill), Plympton St. Mary. In a waste shady spot, July, 1874."—T. R. ARCHER BRIGGS. "This seems to me the same plant as that sent by Mr. Brotherston—i.e., *B. arvensis*, simulating *B. patulus*. It has long anthers and subequal pales."—J. T. BOSWELL, June, 1875.

Brachypodium sylvaticum, var. "An example of a variety of this plant growing on dry banks by the Plymouth and Saltash Road. The spikelets are slender and nearly erect. Any Plymouth record for *B. pinnatum* probably belongs to this variety of *B. sylvaticum*."—T. R. ARCHER BRIGGS, 1872.

Lepturus filiformis. "Salt marsh, Inverkeithing, Fife. As I see in 'English Botany' *Lepturus filiformis* is given as 'having been reported from Inverkeithing,' perhaps you may care to have the accompanying specimens from the salt marsh there. I first gathered it there in 1871, and this year found it there in great profusion, along the very edge of the road."—T. DRUMMOND, 1874.

JOHN T. BOSWELL.

J. F. DUTHIE.

July 3, 1875.

THE
BOTANICAL EXCHANGE CLUB.

LIST OF DESIDERATA
FOR 1875.

LONDON :
RANKEN AND CO., PRINTERS, DRURY HOUSE,
ST. MARY-LE-STRAND.

1875.



REGULATIONS OF THE CLUB.

1. The object of the Botanical Exchange Club is to facilitate the exchange of dried specimens of British plants, especially of critical species and varieties. Anyone wishing to become a member will be admitted on payment to the Secretary of an annual subscription of Five Shillings, and on sending a parcel of dried plants in accordance with the subsequent rules. He will then be entitled to share in the distribution of specimens made in the early part of the year following that in which his subscription and parcel were sent.

2. Specimens sent for distribution must be carefully dried; must not exceed in size half a sheet of demy (16 by 10 inches); and must illustrate the species they represent as completely as possible. Plants more than 16 inches long should be once or twice folded, if by so doing the roots can be preserved. (In the *Cyperaceæ*, *Gramina*, and smaller Ferns no specimens should be sent without roots, except in the case of very rare species, which might be in danger of extermination.) No plant must be sent that is not included in the list of desiderata for the current year, unless it be additional to those enumerated in the 7th edition of the "London Catalogue of British Plants," or be from an unrecorded station, or be an unrecorded variety. But up to the date at which the list of desiderata for the year is issued the desiderata list of the preceding year remains in force, so that the plants collected before the appearance of the annual desiderata list will be received by the Club if they have been mentioned in the desiderata list of the previous year.

3. *Each specimen* must have a label, bearing the number and name of the species as given in the 7th edition of the "London Catalogue"; also the locality and county where, and the date when, the specimen was collected, and the collector's name. The label should be affixed to the specimen by cutting a transverse slit in the base of the label through which the specimen may be pushed. Any facts connected with a species which the sender thinks important and suitable for the "Report" should be communicated on a separate piece of paper, *written on one side only*. Such piece of paper should be about 7 inches wide, and the notes on each species should be dated and signed by the writer. Specimens sent not in accordance with Rules 2 and 3 will be destroyed.

4. Each parcel should be accompanied by a list of the plants the member wishes to receive from the Club. This list is to be made by drawing a short line before their names in the 7th edition of the "London Catalogue."* Species especially wished for should have a ! before the horizontal line. The name of the member and address to which the return parcel is to be sent, and any special directions as to how the parcel is to be sent should be written on the outside of the Catalogue. When the same copy of the Catalogue is used a second time the species which are no longer wanted, but which were marked the first time, should have a perpendicular line drawn through the horizontal line. Manuscript lists of desiderata will not be received. Rubi and Rosæ will be sent out in sets only; so in these genera the horizontal line should be placed before the name of the genus in the Catalogue.

5. Parcels may be sent (*carriage paid*) either to Mr. J. G. Baker or to Dr. Boswell not later than the 31st of December; those that arrive after that date will not be available for the distribution for the current year. Members sending more valuable parcels will have their return parcels selected before those who send inferior ones.

6. Members who do not send parcels, but who have been members of the Botanical Exchange Club previous to 1872, and paid their subscription for the current year before December 31st, will share in the annual distribution; but the specimens for such non-contributing members will not be selected until the parcels of all the contributing

* Published by Mr. R. Hardwicke, 192, Piccadilly, London, W. (Price 6d., post-free 7d.)

members have been made up, and they cannot be selected according to lists of desiderata; but *general* instructions, such as the desire to receive plants of particular districts, natural orders, or genera, will be attended to by the distributor. In future no new members will be received by the Botanical Exchange Club, except those who contribute specimens of plants.

LIST OF DESIDERATA FOR 1875.

N.B.—Of any of the species in the following List, specimens varying in number from 10 to 50, according to its degree of rarity, will be acceptable.

<i>Thalictrum saxatile.</i>	<i>Hesperis matronalis.</i>
<i>sphaerocarpum.</i>	<i>Matthiola sinuata.</i>
<i>riparium.</i>	<i>incana.</i>
<i>Morisonii.</i>	<i>Dentaria bulbifera.</i>
<i>Anemone apennina.</i>	<i>Cardamine impatiens (sponte).</i>
<i>ranunculoides.</i>	<i>Arabis stricta.</i>
<i>Adonis autumnalis.</i>	<i>ciliata.</i>
<i>Myosurus minimus.</i>	<i>glabratia.</i>
<i>Ranunculus Bachii.</i>	<i>Turrita.</i>
<i>elongatus.</i>	<i>perfoliata.</i>
<i>radians.</i>	<i>Barbarea arcuata.</i>
<i>Godronii.</i>	<i>intermedia.</i>
<i>Drouetii.</i>	<i>Cochlearia danica.</i>
<i>trichophyllum.</i>	<i>anglica.</i>
<i>confusus.</i>	<i>Draba aizoides.</i>
<i>marinus.</i>	<i>Camelina sativa.</i>
<i>salsuginosus.</i>	<i>fætida.</i>
<i>intermedius.</i>	<i>sylvestris.</i>
<i>ophioglossifolius.</i>	<i>Thlaspi virens.</i>
<i>tomophyllum.</i>	<i>sylvestre.</i>
<i>chaerophyllum.</i>	<i>perfoliatum.</i>
<i>Caltha Guerangerii.</i>	<i>Lepidium latifolium.</i>
<i>radicans.</i>	<i>Isatis tinctoria.</i>
<i>Eranthis hyemalis.</i>	<i>Helianthemum Brewerii.</i>
<i>Paeonia corallina.</i>	<i>vineale.</i>
<i>Papaver somniferum.</i>	<i>grandiflorum.</i>
<i>Meconopsis cambrica.</i>	<i>Viola permixta.</i>
<i>Glaucium violaceum.</i>	<i>sepincola.</i>
<i>Chelidonium laciniatum (sponte).</i>	<i>calcarea.</i>
<i>Corydalis solida.</i>	<i>Forsteri.</i>
<i>Fumaria Vaillantii.</i>	<i>Mackaii.</i>
<i>muralis.</i>	<i>Symei.</i>
<i>Crambe maritima.</i>	<i>arenaria.</i>
<i>Sinapis incana.</i>	<i>intermedia.</i>
<i>Brassica napus.</i>	<i>stagnina.</i>
<i>Rutabaga.</i>	<i>Curtisii.</i>
<i>Briggsii.</i>	<i>Drosera obovata.</i>

<i>Polygala austriaca.</i>	<i>Vicia Orobis.</i>
<i>grandiflora.</i>	<i>Lathyrus sphæricus.</i>
<i>uliginosa.</i>	<i>tuberosus.</i>
<i>Dianthus glaucus.</i>	<i>hirsutus.</i>
<i>cæsius.</i>	<i>palustris.</i>
<i>Caryophyllus.</i>	<i>maritimus.</i>
<i>Silene puberula.</i>	<i>acutifolius.</i>
<i>conica.</i>	<i>Orobis niger.</i>
<i>quinquevulnera.</i>	<i>Aremonia agrimonoides.</i>
<i>italica.</i>	<i>Alchemilla montana.</i>
<i>Otites.</i>	<i>conjuncta.</i>
<i>Holosteum umbellatum.</i>	<i>Potentilla rupestris.</i>
<i>Lychnis alpina.</i> (England.)	<i>Rubus fruticosus.</i> Any forms named by competent authority.
<i>Cerastium pumilum.</i>	<i>saxatilis.</i>
<i>holosteoides.</i>	<i>Chamaemorus.</i>
<i>pentandrum.</i>	<i>Rosa.</i> Must be named by competent authority.
<i>alpestre.</i>	<i>rubella.</i>
<i>alpinum.</i>	<i>involuta</i> , vars.
<i>lanatum.</i>	<i>hibernica.</i>
<i>pubescens.</i>	<i>cordifolia.</i>
<i>latifolium.</i>	<i>pomifera.</i>
<i>Smithii.</i>	<i>mollissima</i> , vars.
<i>compactum.</i>	<i>tomentosa</i> , vars.
<i>nigrescens.</i>	<i>rubiginosa</i> , vars. b, c.
<i>Andrewsii.</i>	<i>sepium</i> , and vars.
<i>trigynum.</i>	<i>canina Bakeriana.</i>
<i>Arenaria norvegica.</i>	<i>stylosa</i> , vars.
<i>ciliata</i>	<i>bibracteata.</i>
<i>Alsine hybrida.</i>	<i>austriaca.</i>
<i>uliginosa.</i>	<i>Cotoncaster vulgaris.</i>
<i>Sagina alpina.</i>	<i>Mespilus germanica.</i>
<i>saxatilis.</i>	<i>Pyrus latifolia.</i>
<i>nivalis.</i>	<i>scandica.</i>
<i>Herniaria glabra.</i> (Eastern counties.)	<i>semipinnata.</i>
<i>Scleranthus biennis.</i>	<i>fennica.</i>
<i>perennis.</i>	<i>pyraster.</i>
<i>Claytonia alsinoides.</i>	<i>achras.</i>
<i>perfoliata.</i>	<i>Briggsii.</i>
<i>Elatine hydropiper.</i>	<i>Lythrum hyssopifolia.</i>
<i>Hypericum linariifolium.</i>	<i>Œnothera odorata.</i>
<i>Geranium lancastriense.</i>	<i>Isnardia palustris.</i>
<i>Impatiens noli-me-tangere.</i>	<i>Callitricha verna</i> ; fruit.
<i>parviflora.</i>	<i>obtusangula.</i>
<i>Genista pilosa.</i>	<i>truncata.</i>
<i>humifusa.</i>	<i>Ribes sylvestre.</i>
<i>Lupinus perennis.</i>	<i>Smithianum.</i>
<i>Sarothamnus prostratus.</i>	<i>spicatum.</i>
<i>Ononis spinosa.</i>	<i>Tillæa muscosa.</i>
<i>reclinata.</i>	<i>Sedum micranthum.</i>
<i>Medicago minima.</i>	<i>dasyphyllum.</i>
<i>Trigonella ornithopodioides.</i>	<i>sexangulare.</i>
<i>Trifolium ochroleucum.</i>	<i>albescens.</i>
<i>maritimum.</i>	<i>Forsterianum.</i>
<i>Bocconi.</i>	<i>majus.</i>
<i>suffocatum.</i>	<i>Sempervivum tectorum.</i>
<i>strictum.</i>	<i>Saxifraga stellaris</i> , var. <i>vivipara</i> .
<i>Townsendi.</i>	<i>Geum</i> , and vars. (Irish.)
<i>filiforme.</i> (Scotland.)	<i>hirsuta.</i>
<i>Lotus angustissimus.</i>	<i>umbrosa.</i>
<i>Oxytropis Halleri.</i>	<i>cernua.</i>
<i>campestris.</i>	<i>cæspitosa.</i>
<i>Astragalus alpinus.</i>	
<i>Ornithopus ebracteatus.</i>	

Saxifraga Sternbergii.	Sonchus palustris.
decipiens.	Crepis fætida.
sponhemica.	taraxacifolia.
Helosciadium Moorei.	setosa.
Trinia vulgaris.	biennis.
Œnanthe pimpinelloides.	succisifolia.
silaifolia.	tectorum.
fluviatilis.	nicæensis.
fluviatilis.	Hieracium. - Any named on compe-
Seseli Libanotis.	tent authority except—
Siler trilobum.	Pilosella.
Peucedanum officinale.	muronum.
palustre.	vulgatum.
Tordylium maximum.	tridentatum.
Caucalis daucoides.	umbellatum.
Coriandrum stativum.	boreale.
Lonicera Caprifolium.	Phyteuma spicatum.
Galium ochroleucum.	Campanula latifolia purpurca.
anglicum.	persicifolia.
Vaillantii.	Rapunculus.
Asperula taurina.	patula; in sed.
Valerianella mixta.	Vaccinium uliginosum.
eriocarpa.	Arctostaphylos alpina.
Dipsacus pilosus; radical leaves.	uva-ursi.
Carduus polyanthemos.	Arbutus Unedo (sponte).
litigiosus.	Menziesia polifolia.
setosus.	cærulea.
tuberosus.	Erica tetralici-ciliaris.
Carduus hybridus; any.	Mackaiana.
Arctium intermedium.	hibernica.
nemorosum.	Pyrola rotundifolia.
Anthemis anglica.	media.
Diots maritima. (England or Ireland.)	secunda.
Artemisia campestris.	Monotropa hirsuta.
Filago gallica.	Erythræa latifolia.
Gnaphalium pilularc.	pseudo-latifolia.
luteo-album.	Cicendia pusilla.
norvegicum.	filiformis.
hyperboreum.	Gentiana nivalis.
Senecio vulgaris, var. hibernica.	germanica.
(Cork.)	Cuscuta europæa.
paludosus.	Solanum marinum.
palustris.	miniatum.
maritimus.	Verbascum Blattaria.
	hybrida; any.
	Linaria Pelisseriana.
	speciosa.
	Veronica triphylla.
	verna.
	alpina.
	saxatilis.
	spicata; typical.
	hirsuta.
	peregrina.
	tenella.
	Rhinanthus major.
	Melampyrum cristatum.
	arvensc.
	ericetorum.
	montanum.
	sylvaticum.
Picris arvalis.	Orobanche arenaria.
Tragopogon grandiflorus.	cærulea.
Taraxacum lævигатum.	
Lactuca scariola.	
saligna.	
Mulgedium alpinum.	
Sonchus glabra.	

Orobanche major.	Rumex rupestris.
rubra.	sanguineus.
caryophyllacea.	maritimus.
elatior.	palustris.
Picridis.	sylvestris.
amethystea.	pratensis.
Mentha alopecuroides.	elongatus.
viridis.	maximus.
pubescens, α and β .	alpinus.
citrata (sponte).	hybriди.
gracilis.	Polygonum Fagopyrum.
cardiaca (sponte).	rurivagum.
pratensis.	littorale.
Wirtgeniana.	maritimum.
Pauliana.	minus.
agrestis.	Hippophaë rhamnoides.
parietariæfolia.	Daphne Mezereum.
erecta.	Asarum europaeum.
Calamintha Briggsii.	Euphorbia Peplis.
sylvatica.	pseudo-cyparissias.
Salvia clandestina.	Cyparissias.
pratensis.	Lathyris.
Ballota rudereralis.	Ceratopyllum submersum.
Stachys germanica.	Urtica pilulifera.
Galeopsis intermedia.	Dodartii.
ochroleuca.	Populus alba.
Ajuga pyramidalis.	canescens.
Teucrium Botrys.	villosa.
Scordium.	glabra.
Echium plantagineum. (Cornwall.)	Salix viridis.
Lithospermum purpureo-cæruleum.	amygdalina.
Myosotis alpestris. (England only.)	Doniana.
umbrosa.	Helix.
sylvatica. (Surrey.)	intricata.
Mittenii.	stipularis.
Anchusa officinalis.	Smithiana.
Cynoglossum montanum.	pseudo-stipularis.
Asperugo procumbens.	ferruginea.
Pinguicula grandiflora.	acuminata.
alpina.	oleifolia.
Utricularia vulgaris.	sphacelata.
neglecta.	laurina.
minor.	phylicifolia, vars. ; named.
intermedia.	nigricans, vars. ; named.
Primula elatior.	ambigua, vars.
Cyclamen hederifolium.	repens, vars. named.
Lysimachia thrysiflora.	rosmarinifolia.
punctata.	angustifolia.
ciliata.	lanata.
Statice pyramidalis.	Lapponum ; and vars.
occidentalis.	Arbuscula ; and vars.
Dodartii.	Myrsinites ; and vars.
caspia.	Grahami.
Amaranthus Blitum.	Bakeri.
retroflexus.	Moorei.
Chenopodium ficifolium.	Sadleri.
urbicum.	Pinus sylvestris sponte.
intermedium.	pinaster.
botryoides.	Taxus fastigiata.
glaucum.	Typha media.
Atriplex crecta.	Sparganium affine.
prostrata.	Arum italicum.
triangularis.	Potamogeton pseudo-fluitans.

Potamogeton linearis.	
plantagineus.	
sparganiifolius.	
lonchitis.	
lanceolatus.	
heterophyllus.	
nitens.	
acuminatus.	
decipiens.	
longifolius.	
zosterifolius.	
acutifolius.	
obtusifolius.	
mucronatus.	
tenuissimus.	
trichoides.	
pectinatus.	
scoparius.	
flabellatus.	
Zannichellia palustris.	
pedicellata.	
polycarpa.	
Ruppia spiralis.	
rostellata.	
Zostera nana.	
Najas flexilis.	
Alisma lanceolatum.	
natans.	
Actinocarpus Damasonium.	
Stratiotes aloides.	
Aceras anthropophora.	
Orchis hircina.	
ustulata.	
purpurea.	
militaris.	
Simia.	
laxiflora.	
incarnata.	
Neotinea intacta.	
Herminium Monorchis.	
Ophrys aranifera.	
fucifera,	
arachnites.	
Spiranthes aestivalis.	
gemmae.	
Epipactis ovalis.	
violacea.	
Cephalanthera rubra.	
Epipogium aphyllum.	
Corallorrhiza innata.	
Liparis Loeselii.	
Malaxis paludosa.	
Cypripedium Calceolus.	
Sisyrinchium Bermudiana.	
Trichonema Columnae.	
Gladiolus illyricus.	
Iris citrina.	
Bastardii.	
tuberosa.	
Crocus nudiflorus ; leaves and flowers.	
aureus.	
biflorus.	

Narcissus Bromfieldii.	
major.	
poeticus.	
Tazetta.	
Leucojum aestivum.	
vernun.	
Smilacina bifolia.	
Polygonatum verticillatum.	
officinale.	
intermedium.	
Ruscus aculeatus, in fruit.	
Tulipa sylvestris.	
Lloydia serotina.	
Gagea lutea.	
Ornithogalum nutans.	
Muscari racemosum.	
comosum.	
Allium Ampeloprasum ; and vars.	
Babingtonii.	
Scorodoprasum.	
sphaerocephalum.	
vineale ; vars. <i>a</i> and <i>b</i> .	
complanatum.	
carinatum.	
Schænoprasmum.	
sibiricum.	
triquetrum.	
paradoxum.	
Moly.	
nigrum.	
Simethis bicolor.	
Eriocaulon septangulare.	
Luzula Borreri.	
sudetica.	
arcuata.	
Juncus castaneus.	
biglumis.	
diffusus.	
balticus.	
filiformis. (Scotland.)	
obtusiflorus,	
macrocephalus.	
Kochii.	
capitatus, (Cornwall.)	
pygmæus.	
Cyperus fuscus.	
Rhyncospora fusca.	
sordida.	
Scirpus uniglumis.	
parvulus.	
Hолосчænus ; with root leaves.	
carinatus.	
triqueter.	
pungens.	
Eriophorum alpinum.	
gracile.	
latifolium.	
Kobresia caricina. (England.)	
Carex rupestris.	
incurva.	
divisa.	
axillaris ; with roots.	
Boenninghauseniana.	

Carex elongata.	Festuca glauca.
lagopina.	major.
alpicola.	arundinacea.
bracteata.	Bromus Benekenii.
alpina.	rigidus.
Buxbaumii.	maximus.
stricta.	pubescens.
Watsoni.	loydianus.
uliginosa.	patulus.
Gibsoni.	Triticum biflorum.
Micheliana.	pungens.
stictocarpa.	acutum.
limosa.	Lolium linicola.
rariflora.	Hordeum maritimum.
ornithopoda.	sylvaticum.
humilis.	Hymenophyllum tunbridgense.
ericetorum.	Trichomanes radicans.
tomentosa.	Andrewsii.
vaginata.	Adiantum Capillus-veneris.
ustulata.	Asplenium anceps.
frigida.	microdon.
depauperata.	acutum.
punctata.	Serpentini.
speirostachya.	germanicum.
erbracteata.	Athyrium incisum.
involuta.	Woodsia hyperborea.
pulla.	ilvensis.
Grahami.	Cystopteris dentata.
Chamagrostis minima.	Dickieana.
Digitaria humifusa.	alpina.
sanguinalis.	montana.
Echinochloa Crus-galli.	Aspidium
Hierochloa borealis; with leaves.	Lonchitis. (England or Ireland.)
Setaria verticillata.	aculeatum (verum).
Anthoxanthum Puellii.	angulare.
Phalaris paradoxa.	lonchitidoides.
Alopecurus pronus.	Nephrodium abbreviatum.
alpinus.	pumilum.
Watsoni.	cristatum.
Phleum asperum.	uliginosum.
Boehmeri.	collinum.
Sesleria flavescentia.	nanum.
Lagurus ovatus.	glandulosum.
Polypogon littoralis.	aemulum.
Agrostis interrupta. (England.)	Polypodium Robertianum.
Psamma baltica.	alpestre.
Calamagrostis Hookeri (lapponica).	flexile.
Corynephorus canescens.	Gymnogramme leptophylla.
Koeleria gracilis.	Ophioglossum ambiguum.
albescens.	lusitanicum.
Sclerochloa Borreri.	Botrychium rutaceum.
Poa stricta.	Isoetes echinospora.
laxa.	Hystrix.
glauca.	Equisetum pratense. (Fruct.)
Balfourii.	alpestre.
montana.	subnudum.
Parnellii.	hyemale.
sudetica.	paleaceum.
Cynosurus echinatus.	Wilsoni.
Festuca uniglumis.	trachyodon.
ambigua.	Chara. Any named by competent
pseudo-myurus.	authority.

